CHAPTER 3
HISTORIC CONTEXT

Mexican Land Grants in Texas

During the eighteenth and early nineteenth centuries, in an effort to settle the lands in what is the modern state of Texas, Spanish officials began offering land grants as an enticement to potential settlers. This practice was continued by Mexico after it gained independence from Spain in 1810. Land grants ranged from handshake agreements with local Mexican officials to more formal grants issued by the central Mexican government. The haphazard process sometimes resulted in land disputes, especially in eastern Texas where Americans often settled without receiving permission from the Mexican government. Such was the case for empresario Haden Edwards, who arrived in East Texas to find people already settled on his land (McDonald 1980).

Almost all of these land grants had varying terms and conditions, but most included provisions that required the grantee to uphold the laws of Mexico, to be a practicing Christian, and to be willing to become a Mexican citizen. Although individual colonists could petition the Mexican government for grants directly, this was uncommon. More often, applications were handled by immigration agents, or empresarios. An empresario selected colonists, allocated land, and oversaw the enforcement of Mexican law. In compensation, he was entitled to five leagues and five labors of land (roughly 23,027 acres) for each 100 families who settled in Texas. Between 1821 and 1835, 41 empresario grants were made, the majority going to emigrants from the United States. Through this system, individual land grant holders could obtain as much as a league or *sitio* (4,428.4 acres) of grazing land and a labor (177.1 acres) of cropland (Lang and Long 2008).

Among those who came to Texas on the promise of empresario land grants were Irish immigrants in New York, Kentucky, and Philadelphia as well as Irish emigrants recruited directly from Counties Wexford, Waterford, and Tipperary in Ireland (Davis 2002:100). Land shortages and poverty in Ireland compelled many to search for better opportunities elsewhere. The Power and Hewetson Colony represented an example of Irish settlers taking advantage of land grant opportunities in Mexican territory.

POWER AND HEWETSON'S COLONY

In March 1825, James Power and James Hewetson, two influential landowners and empresarios, petitioned the Mexican government for an empresario contract to colonize the Texas coast. Both were merchants and had experience in trade relations with both the United States and Mexico. Through their successful business ventures, the men accumulated sufficient capital and useful contacts in business and government circles to embark on the hazard and expense associated with colonization in Texas (Davis 2002:97). Their application was approved, although the boundaries of the colony were changed several times between 1828 and 1831 as a result of disputes with other area empresarios, including Martin De Leon, John McMullen, and James McGloin (Texas State Historical Association 2008a).

Power undertook responsibility for recruiting settlers. The colony was planned to include 400 Catholic families of both Mexican and Irish heritage. Considerable time had been lost to settling boundary disputes and the colony's contract was set to expire in 1834. The empresarios also encountered difficulties with recruiting Irish colonists through the offices of an English agent. In 1833, Power decided to make the journey himself to recruit colonists. He set sail in April 1833 from Port Aransas (Davis 2002:97). Upon arrival in Ireland, Power went to the area where he himself had spent his childhood years. He persuaded about 350 Irish emigrants to make the journey to Texas, with most coming from County Wexford on the southeast coast of Ireland. Tragedy struck almost immediately when a cholera epidemic during a stopover in New Orleans resulted in the loss of as many as 150 colonists. The survivors made their way to Texas, stopping at the abandoned Refugio Mission, which served as the colony's administrative center. Approximately 200 Mexican colonists joined the Irish immigrants in Refugio (Texas Historical Association 2008a). Among them were Francisco Ramon, Jules Vairin, and Augustine L. Fernet. Portions of their grants eventually would come to comprise the McFaddin Ranch.

In 1834, the settlers received their legal allotment of lands and lots began to be distributed. Hewetson briefly returned to the colony to assist in the issuance of titles. Although he obtained a headright for himself, he returned to Mexico and, in 1835, sold his interest in the colony to Power. With the contract set to expire, Power obtained an extension of three years. During this period, Texas won independence from Mexico, putting an end to the empresario system (Texas Historical Association 2008a).

Nearly 200 titles were issued to settlers in the Power and Hewetson Colony before the Texas Republic declared all remaining public lands to be the property of the state. A large number of titles went to single men, but some were augmentations of previous grants. In some cases, the settlers probably did not occupy the land as the law required. As a result, the goal of bringing 400 Catholic families to the colony was not achieved. Of those who settled permanently, most chose Refugio or the surrounding countryside. Descendants of some of the original settlers still live in Refugio and San Patricio counties today (Texas Historical Association 2008a).

RESULTS OF TITLE SEARCHES

Victoria County stood among the original 23 counties established by the First Congress of the Republic of Texas in March 1836, and three years later, the city of Victoria became the third city to receive a formal charter by the Republic (Hammonds 1999:11; Roell 1990a:127; Shook 1990:113). Similar to the Mexican government, the Texas Republic sought to encourage a high

level of immigration by land grants. Heads of households were eligible to receive 1,280 acres of land, and single men could receive 640 acres. Immigration agents also could receive two sections of land for every 100 families who chose to settle in Texas. The Republic used land to settle debts and claims as well, including grants to soldiers who had served in the recent revolution (Dale 1930:4, 106).

In many instances, land grants that had been made prior to Texas independence were respected. Settlers of Mexican heritage, however, often returned to Mexico for various reasons. The original boundaries of the Mexican land grants continued to be referenced on Texas land maps well into the twentieth century, even after the parcels had been subdivided or consolidated by subsequent owners. The exact fates of Francisco Ramon, Jules Vairin, and Augustine L. Fernet are not known, but it appears, based on limited title searches, that none of the three chose to remain permanently in Victoria County. A topographical map drafted in 1864 (see Chapter 4, this volume) indicated the existence of homesteads that, after geo-referencing the historic map, were confirmed to have been located within the boundaries of the project site. Analysis of the map led to focused archaeological investigations on three parcels within the survey area. Title searches were undertaken for the three sites, with the results presented below. In each case, James McFaddin acquired title to the land by 1902 or earlier, and the property has remained in the hands of his descendants to the present day (Tables 1–3).

Table 1
Jules Vairin Survey (Abstract 123)

Date	Grantor(s)	Grantee(s)	Vol.	Page	Type	Description
1-Jun-1990	C. K. McCan, Jr., et al.	Same	1573	434–538	Partition Deed	11,500 Acres
Notes: McFaddin Ranch Parcel 1. Entire tract is 13,028.30 acres. Owners of parcel are C. K. McCan, Jr. (25 %), Sue McCan Cannon (25 %), and the Estate of Sue R. McCan (50 %). Partition Map is listed in Vol. 7, Pages 103A–103B in the Map and Plat Records of Victoria County. Parcel No. 1 contains lands on the following Surveys: Carlos and Rafael de la Garza (Abstract 46), Desiderio Nira (Abstract 91), Francisco Ramon (Abstract 95), Presidio Irrigation Company (Abstracts 354, 356, 355), Augustine L. Fernet (Abstract 31), Thomas G. Winn (Abstract 352), Jules Vairin (Abstract 123), Fielding Jones(Abstracts 239, 240), BBB & CRR Company (Abstract 476), and the J. A. McFaddin (Abstract 540) surveys.						
2-Jan-1902	Louisa Hogan and Joseph Hogan	J. A. McFaddin	46	129–130	Deed	Two Leagues of Land
Notes: Bought for $100. August L. Fernet (Title No. 102, Vol. 17, October 29, 1834, Abstract 31) and J. Vairin (Title No. 102, Vol. 17, October 29, 1834, Abstract 123).						
19-Mar-1901	Tobias D. Wood	J. A. McFaddin	45	197–200	Deed	$49,674.43 for 8,584 Acres in Nira, Ramon, Fernet, and Vairin surveys, ½ interest in four tract in Vairin Survey (275 acres, 224 ⅗ acres, 424 ⅙ acres, and 20 acres)
Notes: Mentions Victoria-Refugio Road in First Tract, second tract ref. O. Stoner, admin, to Wood and McFaddin, Nov. 26, 1900, Vol. 45, Pg. 35. (See Above), Second Tract subject to 14 ½ acre easement for Victoria to Refugio						

Table 1 (cont'd)

Date	Grantor(s)	Grantee(s)	Vol.	Page	Type	Description
30-Jan-1900	Stoner Pasture Company	Tobias D. Wood	44	79–81	Deed	Stoner Pasture company holding split among stockholders because it failed to pay its franchise tax for 1895. Wood is given $^{1131}/_{1136}$ interest in company's property
30-Jan-1900	W. A. Wood, G. A. Levi, J. K. Dexter (?), F. C. Proctor	Tobias D. Wood	44	82	Deed	Partners of Stoner Pasture Company sell remaining interest to Tobias D. Wood.
13-Dec-1882	Mrs. A. E. Stoner, et al.	Stoner Pasture Company	18	468–471	Deed	1. Lower corner of the League of Land originally granted to Desiderio Nira, 2. The League of Land granted to Fransisco Ramon, 3. The League of Land granted to A. L. Fernett, 4. 1,920 acres below and adjoining to the Fernett League, same being conveyed to A. A. White (?) to Wilkins S. Hunt, and embraced and conveyed by deed of Wilkins Hunt to John Hunt, Book 11, Page 318, Book 12, pg. 619–620
Notes: The conveyance of the 1920 acres excepts the following Transactions: 1. Wilkins Hunt and John Hunt to Henry Harvey, 250 acres Feb. 17, 1862, Vol. 8, pg. 515, 2. John Hunt to Honor Cryer, 100 acres, Sept 22, 1866, Vol. 12, pg. 436, 3. 100 acres to M. Hoffman (no ref.), 4. 21 $^{5}/_{100}$ acres to Henry Farwell (No ref.), 5. John Hunt to J. W. Babcock, 100 acres, Book 12, pg. 273, Dec. 16, 1867, 6. 65 $^{5}/_{10}$ to O (?) Thomas, 65 $^{5}/_{10}$ acres, Vol. 12, pg. 557, Oct 13, 1872, 7. 18 John Hunt to J. M. Kay, $^{14}/_{100}$ acres, May 21, 1870, Vol. 12, pg. 2-3.						
26-Dec-1882	J. S. Crawford and Nannie H. Crawford	Stoner Pasture Company	18	472–473	Deed	1. "Adam Hoffman Tract"–100 Acres, 2. "Thomas Babcock Tract"–100 Acres, 3. "Farwell Tract"–21 $^{5}/_{10}$ Acres, 4. "Kay Place"–18 $^{14}/_{100}$ Acres, 5. Tract purchased Elisha Thomas from John Hunt, 65 $^{4}/_{10}$ Acres.
Notes: REF. Hoffman Tract - Henry Farwell to Elisha Thomas, May 22, 1871. Babcock Tract–Babcock to Elisha Thomas, August 14, 1872. Farwell Tract–John Hunt to Farwell, and Farwell to Elisha Thomas. Kay Place–No Reference, Last Tract, John Hunt to Elisha Thomas, October 13, 1872. All tracts Elisha Thomas and Wife Elizabeth Thomas to J. S. Crawford , June 29, 1876, Vol. 15, pg. 176–178.						
29-Jun-1876	Elisha Thomas and Wife, Elizabeth Thomas	J. S. Crawford	15	176–178	Deed	1. "Adam Hoffman Tract"–100 Acres, 2. "Thomas Babcock Tract"–100 Acres, 3. "Farwell Tract"–21 $^{5}/_{10}$ Acres, 4. "Kay Place"– 18 $^{14}/_{100}$ Acres.
Notes: REF. Hoffman Tract - Henry Farwell to Elisha Thomas, May 22, 1871. Babcock Tract–Babcock to Elisha Thomas, August 14, 1872. Farwell Tract–John Hunt to Farwell, and Farwell to Elisha Thomas. Kay Place–Hunt to Thomas 13 Oct. 1872, Last Tract, John Hunt to Elisha Thomas, October 13, 1872. All tracts Elisha Thomas and Wife Elizabeth Thomas to J. S. Crawford , June 29, 1876, Vol. 15, pg. 176–178.						
1-March 1871	John Hunt	Henry Farwell	15	172–173	Deed	21 $^{5}/_{10}$ Acres
Notes: No further reference						

Table 1 (cont'd)

Date	Grantor(s)	Grantee(s)	Vol.	Page	Type	Description
14-Aug-1872	Thomas W. Babcock	Elisha Thomas	15	173–174	Deed	100 Acres
Notes: No further reference						
16-Dec-1867	John Hunt	Thomas W. Babcock	12	273	Deed	100 Acres
Notes: No further reference						
14-Feb-1871	John Hunt	John W. Kay	12	2 and 3	Deed	18 $^{14}/_{100}$ Acres on Vairin League
Notes: No further reference						
31-May-1871	Henry Farewell & Wife, Abby G. Farwell	Elisha Thomas	12	109–110	Deed	100-Acre Tract
Notes: John Hunt to A. Hoffman, 16, April 1869, and A. Hoffman to Henry Farwell, 16, April, 1869						
13-Dec-1882	Maria Lynn	Stoner Pasture Company	18	515	Deed	A tract of land on the West Side of the Guadalupe River and lying in nearly a square form on the back or west end of 1920 acres of land conveyed by S. A. White to Wilkins Hunt containing 250 acres of land it being the same conveyed by Wilkins Hunt and John Hunt to H. B. Harvey by deed dated 17 Feb. 1862 and recorded in Victoria County aforesaid in Deed Book 8 p 515 and the same conveyed to H. B. Harvey and Wife to my deceased husband J. Richard Lynn by deed dated 18th day of June AD 1875 and recorded in Victoria County aforesaid in Vol. 13 of deeds page 548
Notes: Wilkins Hunt and John Hunt to H. B. Harvey, 17 Feb 1862, Vol. 8, pg. 515, H. B. Harvey and Wife to J. Richard Lynn, 18 June 1875, Vol. 13, pg. 548						
18-Jun-1875	H. B. Harvey	J. Richard Lynn	13	548–549	Deed	250 Acres
Notes: Part of a 1920 Acre tract conveyed to Wilkins Hunt by S. A. White, May 20, 1858						

Table 2
Buffalo Bayou, Brazos, & Colorado Railway Company Survey (Abstract 476)

Date	Grantor(s)	Grantee(s)	Vol.	Page	Type	Description
1-Jun-1990	C. K. McCan, Jr., et al.	Same	1573	434–538	Partition Deed	11,500 Acres
Notes: McFaddin Ranch Parcel 1. Entire tract is 13,028.30 acres. Owners of parcel are C. K. McCan, Jr. (25 %), Sue McCan Cannon (25 %), and the Estate of Sue R. McCan (50 %). Partition Map is listed in Vol. 7, Pages 103A–103B in the Map and Plat Records of Victoria County. Parcel No. 1 contains lands on the following Surveys: Carlos and Rafael de la Garza (Abstract 46), Desiderio Nira (Abstract 91), Francisco Ramon (Abstract 95) , Presidio Irrigation Company (Abstracts 354, 356, 355), Augustine L. Fernet (Abstract 31), Thomas G. Winn (Abstract 352), Jules Vairin (Abstract 123), Fielding Jones(Abstracts 239, 240), BBB & CRR Company (Abstract 476) ,and the J. A. McFaddin (Abstract 540) surveys.						
28-Feb-1910	J. A. McFaddin	St. Louis, Brownsville & Mexico Railway Company	62	483–486	Warranty Deed	Easement for RR purposes containing 100 ft. wide strip across the A. J. Gray (71.91 acres), BBB&C RR Co (157 acres), Fielding Jones (3.76 acres).
Notes: Mentions Stock pens, freight and Passenger depot, and cotton gin at Marianna.						
6-Apr-1889	Lizzie W. Clay and Sidney W. Clay	J. A. McFaddin	25	292–294	Deed	Conveys the J. H. Husher, the BBB & C RR Co., T. G. Winn Surveys
Notes: McFaddin offered a quit-claim deed as payment for properties. REF. BBB & C RR Co., Patent No. 460, Vo.l 15. No Ref. for Winn Survey.						
27-Jan-1880	H. B. Harvey, administrator for R. B. Harvey, Deceased	J. A. McFaddin	17	136–138	Deed	Conveys lands in the BBB&C RR Co, Moore, Jones, Rine and Gray Surveys
6-Apr-1889	Lizzie M. Clay and Sidney W. Clay	J. A. McFaddin	25	292–294	Deed	Conveys the J. H. Husher, the BBB & C RR Co., T. G. Winn Surveys
Notes: McFaddin offered a quit-claim deed as payment for properties. REF. BBB & C RR Co., Patent No. 460, Vol. 15. No Ref. for Winn Survey.						
22-Aug-1889	Stoner Pasture Company	Lizzie M. Clay and Sidney W. Clay	25	453–454	Quit Claim	Stoner Pasture quit claims interest in Winn, Rosell, Tally, Husher, Moore and the BBB&C RR Co. surveys
Notes: Deal was made for splitting cost of fencing between properties						
7-Mar-1888	Gov. of Texas	Green Clay	25	84-85	Patent	320 Acres
Notes: John R. Talley was original holder of patent. Called “Unconditional Head Right Certificate No. 12 issued by the Board of Land Commissioners for Galveston County.”						
13-Mar-1888	Gov. of Texas	Green Clay	25	85–86	Patent	320 Acres
Notes: James W. Moore was original holder of patent, and transferred it to Talley. Patent called “unconditional Head Right certificate no. 97” by the board of Land commissioners for Galveston County						

Table 2 (cont'd)

Date	Grantor(s)	Grantee(s)	Vol.	Page	Type	Description
18-Dec-1883	Green Clay	Lizzie Clay	20	243	Deed	Interest in the J. H. Husher, the BBB & C RR Co., T. G. Winn Surveys
Notes: Mentions old Harvey place, now McFaddin, the land of the Stoner heirs and of Cromwell.						
4-Sept-1874	William S. Glass and William S. Callander (?), Partners	Sidney Clay, Executor of Green Clay, Deceased	25	451	Deed of Conveyance	Conveys Bounty Warrant for 640 acres, no. 409, from Bernard E. Bee (?), Sec. of War for the Republic of Texas to Thomas G. Winn.
Notes: The conveyance mentions that the Bounty was conveyed to Glass and Callander by A. L. Kessler, William Clemens and Walter Tips.						
8-Sept-1859	Buffalo Bayou, Brazos & Colorado Railway Company	A. Olner	8	161	Transfer	Transfers BBB & C RR Co. Survey to A. Olner
Notes: Transfers Land Certificate No. 4/17, dated Jan (?) 29, 1853						

Table 3
Thomas G. Winn Survey (Abstract 352)

Date	Grantor(s)	Grantee(s)	Vol.	Page	Type	Description
1-Jun-90	C. K. McCan, Jr., et al.	Same	1573	434–538	Partition Deed	11,500 Acres
Notes: McFaddin Ranch Parcel 1. Entire tract is 13,028.30 acres. Owners of parcel are C. K. McCan, Jr. (25 %), Sue McCan Cannon (25 %), and the Estate of Sue R. McCan (50 %). Partition Map is listed in Vol. 7, Pages 103A–103B in the Map and Plat Records of Victoria County. Parcel No. 1 contains lands on the following Surveys: Carlos and Rafael de la Garza (Abstract 46), Desiderio Nira (Abstract 91), Francisco Ramon (Abstract 95) , Presidio Irrigation Company (Abstracts 354, 356, 355), Augustine L. Fernet (Abstract 31), Thomas G. Winn (Abstract 352), Jules Vairin (Abstract 123), Fielding Jones (Abstracts 239, 240), BBB & CRR Company (Abstract 476), and the J. A. McFaddin (Abstract 540) surveys.						
6-Apr-1889	Lizzie M. Clay and Sidney W. Clay	J. A. McFaddin	25	292–294	Deed	Conveys the J. H. Husher, the BBB & C RR Co., T. G. Winn Surveys
Notes: McFaddin offered a quit-claim deed as payment for properties. REF. BBB & C RR Co., Patent No. 460, Vol. 15. No Ref. for Winn Survey.						
22-Aug-1889	Stoner Pasture Company	Lizzie M. Clay and Sidney W. Clay	25	453–454	Quit Claim	Stoner Pasture quit claims interest in Winn, Rosell, Tally, Husher, Moore, and the BBB&C RR Co. surveys
Notes: Deal was made for splitting cost of fencing between properties						
7-Mar-1888	Gov. of Texas	Green Clay	25	84-85	Patent	320 Acres
Notes: John R. Talley was original holder of patent. Called "Unconditional Head Right Certificate No. 12 issued by the Board of Land Commissioners for Galveston County."						

Table 3 (cont'd)

Date	Grantor(s)	Grantee(s)	Vol.	Page	Type	Description
13-Mar-1888	Gov. of Texas	Green Clay	25	85–86	Patent	320 Acres
Notes: James W. Moore was original holder of patent, and transferred it to Talley. Patent called "unconditional Head Right certificate no. 97" by the board of Land commissioners for Galveston County						
18-Dec-1883	Green Clay	Lizzie Clay	20	243	Deed	Interest in the J. H. Husher, the BBB & C RR Co., T. G. Winn Surveys
Notes: Mentions old Harvey place, now McFaddin, the land of the Stoner heirs and of Cromwell.						
4-Sept-1874	William S. Glass and William S. Callander (?), Partners	Sidney Clay, Executor of Green Clay, Deceased	25	451	Deed of Conveyance	Conveys Bounty Warrant for 640 acres, no. 409, from Bernard E. Bee (?), Sec. of War for the Republic of Texas to Thomas G. Winn.
Notes: The conveyance mentions that the Bounty was conveyed to Glass and Callander by A. L. Kessler, William Clemens and Walter Tips.						

SELECTED NINETEENTH-CENTURY HOMESTEADS AND LANDOWNERS

Secondary sources and title searches indicate that James McFaddin began acquiring land in southern Victoria County by 1878. Acquisitions continued until at least 1902 when he purchased a tract from Louisa and Joseph Hogan within the Jules Vairin survey (Victoria County Clerk's Office 1902:197–200). Archival research yielded information about several nineteenth-century individuals who owned land that eventually became part of the McFaddin Ranch. They included homesteaders Thomas Babcock, John Hunt, and Green Clay, as well as the Stoner family and Tobe Wood, who were cattle ranchers. Each is discussed in greater detail below.

Thomas Babcock

One of the nineteenth-century homestead sites identified on the topographical map drafted in 1864 (see Chapter 4, this volume) was associated with Thomas Babcock. According to the 1864 map, this homestead was identified as "Bockmier," but this label is erroneous (Peter and Prior 2008). There is no listing of anyone by that name living in the APE in the *Victoria County Index to Deeds, 1838–1888*, but there is a Thomas W. Babcock. Although the historic map was drawn in 1864, some eight years before Babcock bought his tract of land, it is possible that he rented the property or worked as a tenant farmer on the property as these agreements do not appear in the county records.

Babcock was listed as paying his taxes in December 1868, but there is no listing of him owning any real property until 1872 (Victoria County Clerk's Office 1868, 1872). In the fall of 1870, Babcock purchased some cattle from D. J. Ford, but the number of head is not listed in the transaction (Victoria County Clerk's Office 1870).

Thomas W. Babcock was listed in the 1870 Census as being a native of Missouri and a farmer by occupation. He was 27 years old and living with his wife, Margaret W. Babcock, who was 25 and a native of Louisiana. The census listed her occupation as a housekeeper. The Babcocks had

four children: Martha N. (age 8), Mary A. (6), Harvey N. (2), and Ida Lee (9 ½ months). Martha Crier, a 55-year-old native of Louisiana, also is listed as living with the Babcocks and is presumably Thomas's mother-in-law (United States Census Bureau 1870).

In January 1872, Thomas W. Babcock purchased 100 acres from John Hunt for $200.00 in cash. The property was situated on the Desiderio Nira survey. He and his family did not settle there long, as Babcock sold the same parcel of land for the same price to Elisha Thomas in August 1876. There is no further mention of Thomas W. Babcock in the public records in Victoria County, except for when his parcel of land was sold after he vacated it. It was referred to as "the Babcock Place" in these transactions (Victoria County Clerk's Office 1876, 1882).

John Hunt

The site of a nineteenth-century homestead that once belonged to John Hunt was identified on the topographical map drafted in 1864 (see Chapter 4, this volume). John Hunt was born in Macon, Georgia, in 1832, to Wilkins Hunt and Lucinda Kirk Hunt (Morris 1953; Rose 1883). The family came to Texas in 1840 and settled in Victoria County in 1845. Wilkins Hunt rented farmland in the Mission Valley area of the county when he first arrived, but soon began buying tracts of land along the Guadalupe River below the town of Victoria. Wilkins Hunt amassed $10,000 in personal property, $10,000 in real property, owned nine slaves, and listed his occupation as "gentleman" in the 1860 census. Although referred to as "Colonel" Hunt because of his status as a planter, there is no record of Hunt's military service. He also served as the representative of Victoria County at the Adjourned Session of the Secession Convention, which ratified the Constitution of the Confederate States of America in March 1861 (Grimes 1985; Rose 1883).

John Hunt is listed as being 15 years old and a farmer in the 1850 census, and was listed as living with his father and younger brother, William (United States Census Bureau 1850). John Hunt appears on the County Tax Rolls as being the owner of 50 horses in 1854 (Victoria County Clerk's Office 1854). By 1857, Hunt's possessions were appraised at $9,200 by the county appraiser, who noted he owned 770 acres of land, 7 slaves, 50 horses, 25 head of cattle, oxen and a wagon (Victoria County Clerk's Office 1857). Hunt married Alabama Traylor in 1856, the daughter of prominent ranchers Winn and Martha Traylor, and the couple had five children; James (born 1862), Ida (born 1863), William (born 1865), John (born 1869), Jesse (born 1884) and Josephine (born 1878) (United States Census Bureau 1880).

Hunt, like many men in Victoria County, fought for the Confederate States of America during the Civil War (Morris 1953). After the war, he returned to Victoria County and, by 1883, he and his father were considered to be among Victoria County's principal planters and also were involved in the cattle business (Grimes 1985). Hunt continued to add to his real estate holdings and personal fortune by buying and selling land and cattle. By 1872, he had sold his property within the APE to Elisha Thomas, the same individual who purchased the Babcock property (Victoria County Clerk's Office 1872). In April 1899, John and Alabama Hunt distributed much of their holdings in Victoria County to their children, and most received over 1,000 acres each (Victoria County Clerk's Office 1899). Hunt's estate was valued at $72,450 by county officials that same year (Victoria County Clerk's Office 1899).

Alabama Traylor Hunt died in 1918, dividing her estate among her children (Morris 1953). She left her husband the lifetime use of her house, her material possessions, her Packard automobile, and $10,000 (Victoria County Clerk's Office 1915). John lived in his home in Victoria until his

death in 1921. Victor Rose (1883), who wrote a brief history of Victoria County in 1883, described John Hunt as being known as gallant, chivalrous, and excelling in all his accomplishments.

Green Clay

Another nineteenth-century landowner, Green Clay, was born in Bourbon County, Kentucky, on December 14, 1833, to Sidney P. and Isabella E. J. Reed Clay. Clay graduated from Centre College in 1853 and married Lizzie M. Goodman before leaving Kentucky for Texas. The couple had two sons (Bourbon-Boyle County Kentucky Archives Biography 2008). Clay's holdings in Victoria County were obtained through his redemption of land certificates and land bounties that originally were granted to other people. Although it is unclear how Clay was able to secure these certificates, he was given title to the lands. Clay redeemed headright certificates originally issued to John R. Talley and James W. Moore, and a military land bounty issued to Thomas G. Winn. Winn's military land bounty was conveyed to Clay's executor, Sidney Clay, by William S. Glass and William S. Callander (Victoria County Clerk's Office 1889:84–86, 451). Glass and Callender were law partners who established their practice in Victoria in 1858 and obtained the certificate from A. L. Kessler, William Clemens and Walter Tips (USGenWeb Project 2008; Victoria County Clerk's Office 1889).

Stoner Pasture Company

Founded by the Stoner family, the Stoner Pasture Company was a ranching company that began operations near Kemper City in southern Victoria County during the 1880s. The company controlled several leagues of land on the Ramon, Vairin, Fernet, Presidio Irrigation Company, Winn, and Nira surveys (Victoria County Clerk's Office 1895:79–81).

Michael Lowery Stoner was born in Montgomery County, Kentucky, in 1817. He married Carlysle Harris in 1843, and they had seven children: Nannie, George Overton, Peter, Talitha, William Little, Maria, and Lilie. The Stoner family moved to Texas and settled in Victoria County's Mission Valley in 1858. Following his wife's death a year later, Michael Stoner moved the family to Refugio County. In 1861, he remarried and the family moved a third time, this time to Bleak Hill, 3 miles south of Victoria. With his second wife, Michael had two more sons, Washington Hunt and Michael Davis. During the Civil War years, the younger children returned to Kentucky while Michael and son George Overton served in the Confederate Army. Michael served at the Confederate garrison Fort Esperanza, and after being captured, went to New Orleans as a prisoner of war for nine months. After the war's end, Michael Stoner returned to Refugio County. A cattle rancher, Michael ranked among the advocates for enclosing cattle pastures. A series of articles on the matter published in the *Victoria Advocate* newspaper by Dr. E. H. Smith supported his theories. He died of cancer in 1875. His sons were probably the first in Victoria County to enclose their pastures, doing so with plank fences during the winter of 1875 (Morris 1953:np; Petty 1961:188–190; Wolff 1968b:386).

In 1876, the Stoner family sold their holdings in Refugio County and moved to a 15,000-acre ranch in Victoria County, approximately 15 miles south of Victoria, west of the Guadalupe River. Kemper City was the nearest community. In December 1882, with $250,000 in capital, the family established a joint stock company, thereafter known as the Stoner Pasture Company. The

original charter was set to expire 50 years after the founding date. Among the founding officers were President J. S. Crawford, and Directors W. L. Stoner, J. S. Crawford, George Overton Stoner, W. W. Hunt, and Peter Stoner. According to Rose's 1883 history of Victoria County, the Stoners' Victoria County ranch was located along the Guadalupe River and adjoined the McFaddin Ranch. At that time, it encompassed some 30,000 acres enclosed with barbed wire fences, and the total livestock count was 8,000 head. By 1886, the company's holdings had increased with the addition of another 5,000 acres, and the livestock included 5,000 head of improved cattle (Petty 1961:190–191; Wolff 1968a:389).

George Overton Stoner managed the firm for many years. He was born in Tennessee in 1845, prior to his family's arrival in Texas. Just 16 years old when the Civil War began, he served in the Confederate Army for the duration of the war. During the mid-1880s, the Stoner Pasture Company's holdings were valued at $64,600. Peter and William Stoner also participated in the family's ranch operations. In 1883, Peter brought 1,000 head of cattle from Florida. Both also engaged in horse sales (Morris 1953:np; Petty 1961:191; Wilson and Roell 1990:73; Wolff 1968b:356–357, 388–389). The company dissolved in 1895 because of failure to pay franchise taxes, and the holdings were split among stockholders (Victoria County Clerk's Office 1895:79–81).

Tobe D. Wood

Tobe D. Wood gained control of the majority of the dissolved Stoner Pasture Company properties. Born in 1851 in San Patricio County, Tobe D. Wood was the son of Major John H. Wood, a veteran of the Battle of San Jacinto. Tobe Wood operated ranches in Victoria and Refugio counties during the late nineteenth and early twentieth centuries. Woodsboro, in Refugio County, is named for him. He was noted for breeding both cattle and thoroughbred race horses and is credited with bringing the first Sussex cattle into Victoria County from a herd owned by Overton Lee in Nashville, Tennessee, acquiring them in 1898. Lee was reportedly the original breeder of Sussex cattle in the United States; the breed originally came from England (Morris 1953:np; Wolff 1968b:392). Along with James McFaddin, Thomas M. O'Connor, G. A. Levi, Leo N. Levi, J. M. Mathis, and others, Wood founded the Texas Continental Meat Company in 1882. He also was on the first board of directors of the Southwestern Cattle Raisers' Association (Petty 1961:75–76, 91).

In 1901, Wood sold the land holdings he had acquired from the Stoner Pasture Company to Allen McFaddin. Tobe Wood died in 1916 and was survived by two daughters, Kate Wood Pickering and Mame Wood Stoner, and five sons, James B., Patrick H., Ralph, Tobe D., and Richard H. Wood's Sussex cattle herd was eventually sold to a Brownsville buyer and bred out, but his son, R. H. Wood of San Antonio, and his grandson, Lawrence Wood of Refugio, imported Sussex cattle in 1949–1950. Lawrence Wood continued to maintain the Sussex herd in Refugio County through at least the 1960s (Morris 1953:np; Wolff 1968b:392–393, 420).

THE MCFADDIN RANCH

In 1878, James Allen McFaddin began buying land in Victoria County at the fork of the Guadalupe and San Antonio rivers. Descendant of a successful Texas rancher, he had been in the ranching business himself since the late 1850s, primarily in Refugio County. His southern

Victoria County ranch ultimately grew to encompass about 30,000 acres. An average of 4,000 head of cattle per year was raised at the ranch during his career. He also had the 15,000-acre Garcitas Ranch about 8 miles north of Victoria. Both ranches continue to belong to his descendants (Robert McCan, owner of a portion of the original McFaddin Ranch, personal communication 2008).

McFaddin's ranch was one of many cattle ranches established in Texas's coastal bend region (Figure 21). The ranches tended to be located along a river or other water source, indicative of the importance of a steady water supply. The Fagan, O'Connor, Williams, and De La Garza ranches were among those that were operated by McFaddin's contemporaries.

As he was building his ranch in southern Victoria County, James McFaddin undertook ranching practices that ultimately became industry standards. He started enclosing his extensive pasture land with barbed wire fences during the early 1880s. Between 1878 and 1881, he began experimenting with crossbreeding Brahman bulls with his existing herd, using foundation stock he acquired in East Texas and Louisiana (Petty 1961:163; Whitaker 1941:18; Wilson and Roell 1990:72). In 1904, McFaddin purchased a Brahman bull and cow for breeding purposes. Although the cow soon died, the bull became the foundation sire for the McFaddins' Brahman herd (Hand 2000:102; Wolff 1968a:397–399).

After James's death in 1916, his son Allen managed the ranch. Working with Abel P. Borden and James Sartwell, he crossbred Brahmans with other Texas cattle breeds and was a consultant to the legendary King Ranch breeding program (Wilson 1990b:72). He also helped organize the American Brahman Breeders Association in 1924 and served as its first president (Grimes 1968:410). In 1924, James McFaddin's grandson, Claude McCan, Sr., took over the ranch management, including its breeding program. Years of experimentation resulted in a hybrid breed of beef cattle that was three-quarters Hereford and one-quarter Brahman, and bred true across generations, showed improved qualities over the sires and dams, doing well under coastal climatic conditions. McCan continued to manage the ranch until his death in 1975 (Hand 2000:102; Letz 1958:np; Wilson 1990a:71; Wolff 1968b:393).

Population on the McFaddin Ranch peaked in 1934, when there were 141 employees, their wives, and 296 children. As mechanization became more commonplace, the need for farm laborers and ranch hands dwindled. Many of the younger generation left the ranch in search of different opportunities. By 1977, the number of families on the ranch dropped to 55. The deaths of Claude McCan, Sr., in 1975, Dennis Adler and William Peavy in 1977, and Frank Ernst in 1986 represented the passing of the generation that had led McFaddin Ranch through much of the twentieth century. In 1987, the ranch was partitioned by James McFaddin's heirs. Some portions of the ranch continued to be used for raising cattle, but the farmland was leased. The McFaddin Grain Company remained in operation as well (Hand 2000:105).

James Alfred McFaddin

James Alfred McFaddin was born in 1840 near Beaumont, Texas (Figure 22). His parents were William and Rachel (Williams) McFaddin. His grandparents, James and Elizabeth McFaddin, came to Texas from Tennessee in 1821, and 10 years later, William McFaddin's first ranch was established when he received a land grant in Liberty County from the Mexican government. However, the family moved to another ranch in Jefferson County the following year. James A.

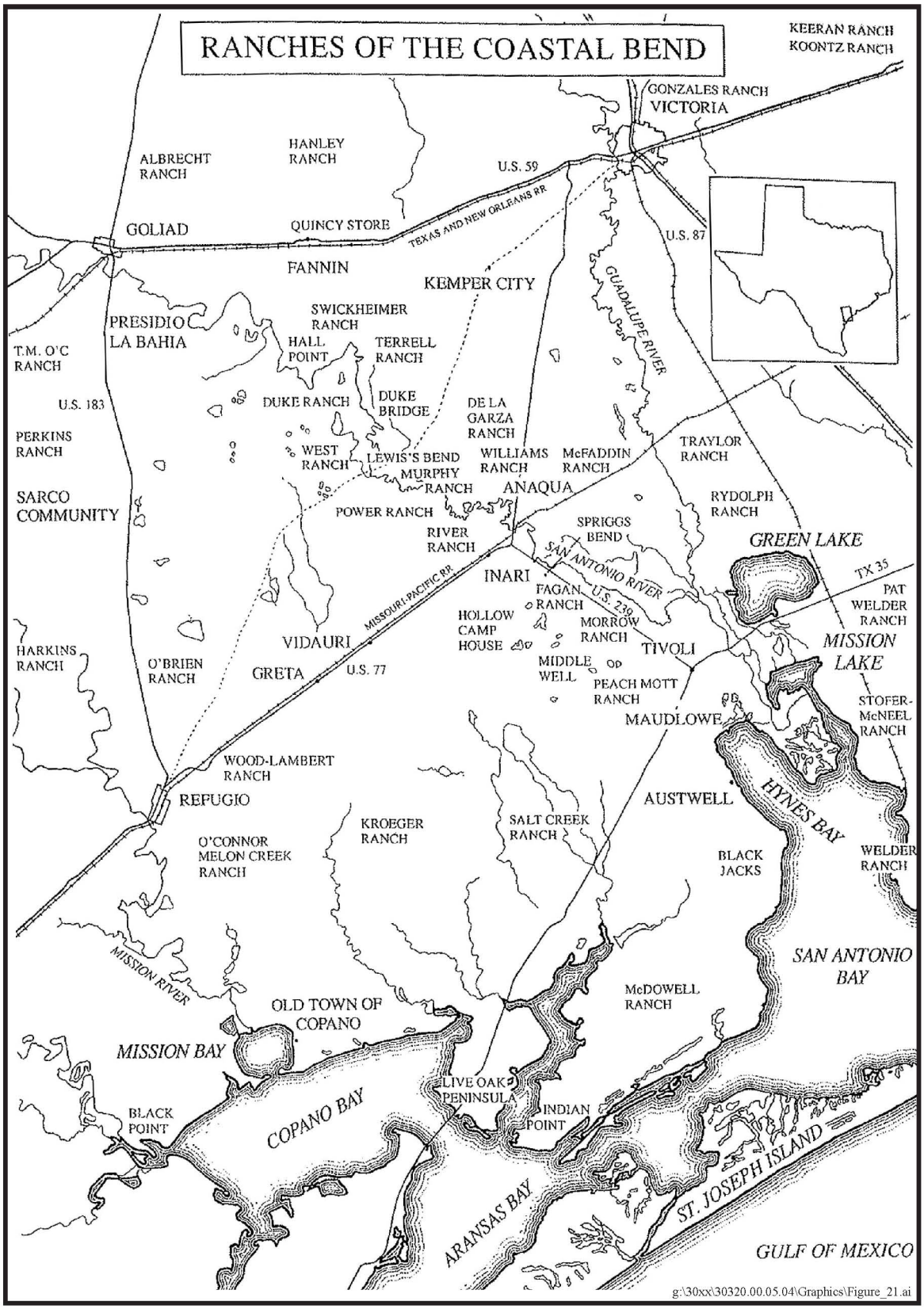

Figure 21. Ranches of the Coastal Bend (O'Connor 1989).

Figure 22. Undated historic photograph of James Alfred McFaddin (Local History Collection, Victoria College/ University of Houston-Victoria).

McFaddin went on his first cattle drive at the age of 15, and in 1858, he founded his first ranch on Melon Creek in Refugio County. He used 130 cattle from his father's ranch as the foundation of his cattle herd. On the eve of the Civil War, he married Margaret V. Coward and their first child, Allen Minor, was born while James served in the Confederate Army. Over the course of their marriage, they had 10 children. Several of the McFaddin children died of scarlet fever. Biographical information was available only for Allen and for Emily Di McFaddin, born in 1876. Another daughter, Margaret, married William H. Crain, a local rancher, but no further information about her was discovered (Grimes 1968:407–409; McCan, personal communication 2008; Petty 1961:163; Whitaker 1941:17–18; Wilson and Roell 1990:72).

During the Reconstruction period, James McFaddin lived in Refugio County and returned to ranching and farming. Active in local civic affairs, he commanded a county militia company and helped oversee road construction in the county. In 1876 or 1878, he bought land in Victoria County at the fork of the Guadalupe and San Antonio rivers. The family moved to this location in 1881. The ranch house stood on Bello Lake, about a mile south of Kemper's Bluff (Petty 1961:163; Whitaker 1941:18; Wilson and Roell 1990:72).

Around 1879, James began experimenting with cattle breeding, importing Brahman bulls specifically for this purpose. Similar to his contemporaries, he began fencing his pastures with barbed wire during this period as well. To expand pasture and cropland, McFaddin built a 12-mile levee along the Guadalupe River and drained approximately 5,000 acres of swampland (Grimes 1968:408; Wilson and Roell 1990:72).

By the late nineteenth century, McFaddin's business interests expanded to include helping to organize a Building and Loan Association in Victoria. In 1882, A. de Rollepot established an ice manufactory in Victoria. Local ranchers seized on the opportunity presented, and the following year, James McFaddin, along with Thomas M. O'Connor, G. A. Levi, Leo N. Levi, J. M. Mathis, Tobe Wood, and others, founded the Texas Continental Meat Company. With a capital of $1 million, the joint stock company's mission was to use the manufactured ice to run refrigerated train cars filled with fresh meat to eastern cities. In 1884, James ranked among the founders of the Southwestern Cattle Raisers' Association. With J. J. Welder and Harry Rathbone, James participated in establishing the Guadalupe Navigation Company in hopes of clearing the river to reestablish navigation. By 1885, James was one of the wealthiest ranchers in the county, with land holdings worth $95,800. He died in 1916 at his home in Victoria (Petty 1961:75–76, 90–91; Shook and Spurlin 1985:54; Wilson and Roell 1990:73).

Allen Minor McFaddin

Allen Minor McFaddin, born in 1863 in Galveston County, Texas, was the eldest child of James and Margaret McFaddin (Figure 23). He married Ada Pettus of Goliad in 1888 (Wilson 1990b:71). Ada was born in Bee County, and her parents were William A. and Nyra Lott Pettus. The marriage resulted in no children.

Following his father into ranching, Allen assisted with the McFaddin Ranch cattle breeding program. Allen registered the N6 brand, and the HP brand was placed under the name of his wife, Ada Pettus McFaddin. An astute businessman, Allen also was recognized for his expertise in analyzing marketing conditions. Allen was a founder of the Texas and Southwestern Cattle Raisers' Association and served as its first president in 1912–1913. Active in civic affairs, he was elected to a term in the Texas legislature and spent a term on the Texas Sanitary Commission (Grimes 1968:410; Morris 1953:np; Whitaker 1941:85; Wilson 1990b:71–72). When the United States entered World War I, Allen gave each volunteer in Company A, Fifth Texas Infantry Regiment, a five-dollar gold piece and shipped steers to the company at Camp Bowie so the men could have fresh beef. When the war ended, he gave each person who had volunteered from the McFaddin Ranch the necessary equipment to do his own farming (Shook and Spurlin 1985:123).

In addition to ranching, Allen's business interests included acting as a director of the Victoria National Bank. During the 1920s, he became involved in the oil industry with W. C. Tyrrell in the Heywood Oil Company at Spindletop oil field in Jefferson County. Allen retired from ranching in 1925. He sold his cattle to his brother-in-law, William H. Crain, and his nephew, Claude K. McCan. For the remainder of his life, he devoted his leisure time to travel. Allen died in 1930 and was buried in Evergreen Cemetery at Victoria (Grimes 1968:411; Whitaker 1941:85; Wilson 1990b:71–72).

Figure 23. Undated historic photograph of Allen M. McFaddin and James A. McFaddin (Photograph Collection, Victoria College/University of Houston-Victoria).

The McCan Family

The McCan family inherited the McFaddin ranch through James Ferdinand McCan and his wife, Emily McFaddin McCan. Both the McFaddin and McCan families have established reputations for land stewardship. The McFaddin Wildlife Refuge was established by a branch of James McFaddin's extended family. Robert McCan, great-great-grandson of James McFaddin and great-grandson of Claude McCan, Sr., described his family as "serious ranchers." They actually are operators as opposed to owners who take little interest in the day-to-day operations of the ranch. With regard to managing their land holdings, Robert McCan (personal communication 2008) noted "the more you take care of [the land], the more it'll give back to you." McFaddin Enterprises won the Lone Star Land Stewardship Award for Coastal Prairies in 2007 (Grazing Lands Conservation Initiative 2007).

Claude Kerry McCan, Sr.

Claude Kerry McCan, son of James Ferdinand and Emily McFaddin McCan, was born in Victoria in 1899 (Figure 24). He married Sue Ragsdale in 1923 and they had two children, daughter Sue and son Kerry. McCan was a trustee of the McFaddin estate and assumed management of the McFaddin Ranch in 1924. He continued the cattle breeding program begun by his grandfather, James A., and uncle, Allen M. McFaddin, and developed a Hereford-Brahman cross that is especially well suited to the Gulf Coast region. His other endeavors included being a partner in Welder & McCan, a steer brokerage firm, with James F. Welder, Jr., and a member of the

Figure 24. Circa 1951 photograph of Claude K. McCan, Sr. (Local History Collection, Victoria College/University of Houston-Victoria).

Victoria National Bank board of directors. He served as president of the Texas and Southwestern Cattle Raisers' Association from 1942 to 1944, as director of the Gulf Coast Council of Agriculture, and as chair of the Production and Marketing Administration for Texas during the Eisenhower presidential administration. His name appears on numerous mid-1930s deeds granting easements and rights-of-way to various oil and gas companies, reflecting the oil and gas exploration that began on the ranch during that period. McCan also was a longtime benefactor of the Bronte Library in Victoria. He died in 1975 and was buried in Evergreen Cemetery at Victoria. His wife, Sue, died in 1981 (Fidelity National Title Insurance Company 2007; Grimes 1968:411; Morris 1953:np; Robinson 1981:11; Victoria Sesquicentennial, Inc., 1974:71; Whitaker 1941:83; Wilson 1990a:71).

Claude McCan was the first McFaddin Ranch owner to lease hunting rights to sportsmen's groups as a means of supplementing the ranch's income and controlling the deer population. He also hired the ranch's first wildlife biologist during the early 1970s, when very few other ranchers considered taking such action. These traditions were continued by his son, Claude Kerry McCan, Jr., and grandson Robert McCan (McCan, personal communication 2008).

Claude Kerry McCan, Jr.

Claude Kerry McCan, Jr., son of Claude and Sue Ragsdale McCan, was born in Victoria. He married Mary Carroll Groce and inherited his father's interest in the McFaddin Ranch upon C.K.'s death in 1975. Kerry McCan wrote a novel based on a fictitious cattle drive. He served as

Director of the Texas and Southwestern Cattle Ranchers Association, and chaired the local district of the Victoria Soil and Water Conservation District. He is now retired (Pat Fagan, McFaddin Ranch employee, personal communication 2008; McCan, personal communication 2008).

James Robert McCan

James Robert McCan, son of Claude Kerry McCan, Jr., and Mary Carroll Groce was born in Victoria in 1957. He graduated from Texas A&M University with a degree in range science. He currently owns and operates McFaddin Enterprises, composed of 75,000 acres in Victoria, Refugio, and Bee counties. Like his father and grandfather before him, Robert McCan has been very active in the Texas and Southwestern Cattle Raisers Association, serving as Director, First Vice President, and most recently, President from 2003–2005. He also serves as Director of the Victoria Soil and Water Conservation District. Robert McCan has been appointed or elected to a number of positions with various boards and commissions, including Director of the National Cattleman's Beef Association (NCBA), Vice-Chair of the NCBA's Private Lands and Environment Committee, Chair of the State Fire Ant Research and Management Account Advisory Committee, President of the Grazing Lands Conservation Initiative (GLCI) Texas commission, and an alternate on the GLCI steering committee. In addition, McCan has held positions on the Farm and Ranch Lands Conservation Council, the Management Council for the King Ranch Institute for Ranch Management, and the Advisory Board of the South Texas Native Plant Restoration Project. He served as Director of the First Victoria National Bank and participated in the Texas Beef Industry Roundtable. McCan has also offered his services to the Texas section of the Society for Range Management, which features the McFaddin Ranch as one of nine ranches used to help educate high school students on the stewardship of land (Horsecity 2005; Navejar 2005; Texas and Southwestern Cattle Raisers Association 2001; Texas Government Insider 2006). Robert McCan has used his many positions to help educate the public on a variety of subjects including prescribed burning, land stewardship, cattle raising, rotational grazing, conservation, wildlife habitats, water conservation, prairie restoration, and livestock management.

Partitioning of the McFaddin Ranch

Presently, there are two lines of descendants from James McFaddin, springing from his daughters Emily and Margaret. Emily McFaddin married James Ferdinand McCan in 1897, and the couple had one child, Claude Kerry, in 1899. Emily and James McCan later divorced and, although Emily remarried, she and her second husband, Royston Nave, did not have children. Her name appears as Mrs. E. D. Nave on various oil leases made during the 1930s. Emily died in 1943 (Robinson 1981:9–10). Claude Kerry McCan married Sue Ragsdale in 1923 and they had two children, Claude Kerry, Jr., and Sue, who, in turn, had several children of their own (McCan, personal communication 2008).

Margaret McFaddin married William H. Crain, a local rancher, in 1907. They had five children: Alada, Margaret, Eileen, Emily, and William Henry, Jr. Ten years after marrying into the McFaddin family, William H. retired from legal practice and took up ranching full time (Whitaker 1941:47, 49). William H. and Margaret's daughter, Emily, married Owen Walter Womack of Menard. The names of W. H. Crain, Emily Womack, and the Nave, Crain, McCan

Company appear on mid-1930s deeds granting easements and rights-of-way to various oil and gas companies (Fidelity National Title Insurance Company 2007).

Partitioning of the McFaddin Ranch among those in the two lines of descent from James McFaddin took place in 1987. The survey area is contained with a 13,028-acre parcel owned by Robert McCan, his brother, his aunt Sue McCan, his father Claude Kerry McCan, Jr., and five first cousins. Margaret McFaddin Crain's heirs later partitioned their portion of the McFaddin Ranch amongst themselves. Cattle ranching continues on all of the parcels associated with the historic McFaddin Ranch, although the various enterprises are separately operated today. The various descendants of Emily and Margaret McFaddin also retain ownership of mineral rights associated with the McFaddin Ranch (McCan, personal communication 2008).

RAILROADS IN SOUTHERN TEXAS

As was true throughout Texas, and indeed much of the United States during the nineteenth century, lack of access to transportation posed a significant hurdle for settlers to overcome. River-based transportation was feasible in many regions of the country, but most of the rivers of Texas were not deep enough for dependable, year-round transportation. The Guadalupe and San Antonio rivers in Victoria County were typical examples of slow moving, meandering rivers that were poorly suited to steamboat navigation. Through much of the nineteenth century, road-building technology was not advanced enough to construct an extensive road network at an economically feasible cost.

During the 1830s, railroads began to emerge as a solution to long-range transportation needs, both at a state and national level. Constructed on a fixed route, the steel rails and timber ties of rail corridors could traverse most terrains, required a fraction of the maintenance needed for surface roads, and were impervious to the seasonal climatic conditions such as flooding and freezing that limited river navigation. As such, railroads represented a significant leap forward in transportation technology and were the first means of transport to match the emerging industrial might of the United States.

In 1836, the Texas Republic chartered the Texas Rail Road, Navigation, and Banking Company in its first attempt to finance construction of public railroads. Provisions allowing banking and monopoly requirements, however, drew considerable criticism, and in 1838, the company collapsed without having made any attempts at railroad construction. The Republic next granted three additional charters for railroads to run from Galveston Bay, from Harrisburg, and from Houston to the Brazos Valley. These three firms also failed. With the need for access to distant markets and for passenger travel becoming acute in Texas, market forces dictated that new approaches be undertaken. In early 1847, Sidney Sherman acquired the Harrisburg & Brazos company's assets, and later that year, he attracted investors from the eastern United States to the project. The Buffalo Bayou, Brazos & Colorado Railway Company was chartered on February 11, 1850. The initial 20-mile segment from Harrisburg (now a part of Houston) and Stafford's Point (now Stafford) opened in September 1853, making it the first railroad to operate in Texas and the second west of the Mississippi River. More railroad companies soon followed. Although most were short-lived, by the end of 1861, there were nine railroad companies with about 470 miles of track in Texas. Five of the railroads were centered in the Houston area, and all but one ran from either a seaport or river port (Werner 2008).

The impact of railroads on life in Texas was significant and widespread. Stagecoach trips that once required days to complete now took only hours and were not hampered by rain or washed-out roads. Their greater flexibility meant railroads soon supplanted almost all of the river-based steamboat traffic. Such conditions assured that demand for more extensive railroad networks spread to all parts of Texas.

Railroad construction required a level of financial investment that outstripped the capacity of local capital in Texas. Incentives were used to attract eastern and foreign investors, including city and county bonds, issued to aid railroad construction, and state-funded loans and land grants. Estimates of the amount of public lands granted for this purpose range from 27,000,000 acres to about 35,780,000 acres by the mid-1880s (Werner 2008). Construction largely ceased during the Civil War, but Texas railroads did not suffer the immense physical damage that occurred elsewhere in the South. However, constant use with few repairs exacted a toll, and several railroads shut down in the war's aftermath, when stringent financial conditions also curtailed commercial and industrial activity. Their assets were acquired by surviving companies or new investors. Large-scale construction of new rail lines did not resume until the 1870s (Werner 2008).

A number of major new railroad companies were established during the late nineteenth century. They included the International Railroad and the Houston & Great Northern Railroad that merged to form the International & Great Northern Railroad in 1873. In northeast Texas, the Texas & Pacific Railway Company acquired the Southern Pacific and the Memphis, El Paso & Pacific, and built a new line from Texarkana to Dallas and Fort Worth. Work also began on the Gulf, Colorado & Santa Fe Railroad. By 1879, railroad mileage in Texas totaled 2,440 miles, with much of it in eastern Texas. Over the next decade, more than 6,000 miles of new railroad track were constructed in the state. Two rail lines, the Galveston, Harrisburg & San Antonio and the Texas & Pacific, traversed the breadth of Texas by 1883. Another major line built during this period was the Fort Worth & Denver City Railroad, which stretched from Fort Worth to the New Mexico border and provided a direct line to Denver (Werner 2008).

The 1880s also represented a period of railroad consolidation, as a number of independently owned Texas companies were bought by outside interests with holdings in other states. Mergers and acquisitions also resulted in monopolistic market conditions that led shippers, farmers, and government officials to protest high rates, traffic pools, and other commercially restrictive practices (Werner 2008).

In 1888, Attorney General James S. Hogg filed several successful lawsuits alleging that control of railroads by companies chartered outside of the state violated the Texas constitution. He also obtained a court decision against rail pools that set rates and divided available traffic among the larger systems. Two years later, Hogg won the state governorship largely on the promise of establishing a state railroad commission. Created in 1891, the Railroad Commission soon became one of the most powerful regulatory bodies in the state (Werner 2008).

By 1900, Texas still had less than 10,000 miles of railroad tracks, or about five percent of the total railroad mileage of the United States. A burst of railroad construction occurred over the next three decades. As a result, though only 25 percent of the national system was built after 1899, nearly 45 percent of the Texas mileage was built between 1900 and 1932. At its peak, Texas had 17,078 miles of track. Voids in the rail network in the South Plains, Panhandle, and West Texas were filled and new lines constructed in the more developed areas of Texas. By 1911, Texas became the state with the most railroad mileage, a position it still maintains (Werner 2008).

Buffalo Bayou, Brazos & Colorado Railway

On 11 February 1850, a group that included Gen. Sidney Sherman received a charter for the Buffalo Bayou, Brazos & Colorado Railway (BBB&C). Construction began from Buffalo Bayou at Harrisburg (now part of Houston) in 1851, and the first 20 miles of track, from Harrisburg to Stafford's Point (now Stafford), opened in August 1853 (Werner 2008). In an effort to encourage construction and settlement, the Texas legislature issued land grants to the BBB&C and other railroads. This land could then be sold by the railroad to raise needed funds for construction and maintenance of the rail line. The BBB&C was actually the only railroad in the state that was in operation before the Texas legislature began offering land grants. The BBB&C received the first railroad land grant from the State of Texas, a total of 99,840 acres, in 1854 (Reed 1941:141–142). Some of this grant was located in Victoria County, and the company transferred its entire survey to A. Olner on 8 September 1859 (Victoria County Clerk's Office 1859:161). This parcel was identified during the title search for portions of the McFaddin Ranch.

By 1 January 1856, the BBB&C had been extended to East Richmond on the bank of the Brazos River. Construction resumed in 1858, and in late 1860, the tracks extended 80 miles to Alleyton, near the east bank of the Colorado River opposite Columbus. Due to the debilitating effect of the Civil War and its aftermath on the BBB&C, the company built no new mileage after 1860. However, it extended its service to Columbus in 1867 over the Columbus Tap track. The Columbus Tap was chartered in 1860 to connect Columbus with the BBB&C, and in November 1867, completed its 3-mile line and a permanent bridge over the Colorado River (Werner 2008).

By 1868, the BBB&C was experiencing financial difficulties, and the sheriff of Harris County sold the railroad to Col. William Sledge for $13,000 on 7 July 1868. Sledge retained a 25 percent interest in the line and sold the balance to a group that included Thomas W. Pierce. The new owners rehabilitated the BBB&C tracks and equipment, which were "badly dilapidated" due to neglect during the Civil War. The company replaced many crossties and acquired the first new locomotives and cars since before the war (Reed 1941:192).

To cross the Brazos, the railroad initially used a ferry and inclined planes on each side of the river. This system was replaced in October 1858 by a low-water crossing, which was unusable during periods of heavy rain. In April 1867, a separate company, the Brazos Iron Bridge Association, was organized to finance and build a permanent bridge across the Brazos River; the job was completed in July 1869.

On 24 January 1870, the company was sold for $25,000 under provisions of an 1860 mortgage on the property. A new company with the same name was organized with Peirce as president. In July, the charter was amended, the Columbus Tap and the Brazos Iron Bridge Association merged into the BBB&C, and the name of the company changed to Galveston, Harrisburg & San Antonio Railway.

St. Louis, Brownsville & Mexico Railroad

In 1903, the Saint Louis, Brownsville, & Mexico Railroad was chartered to provide a rail line from Sinton, Texas, to Houston with the construction of branch lines to Collegeport, Victoria, Port O'Connor, and Sam Fordyce. It was intended that the railroad form one of the sections of a continuous line from Chicago, St. Louis, and Memphis to Baton Rouge, Houston, Brownsville,

Tampico, and Mexico City. Members of the first board of directors included Robert J. Kleberg and Arthur E. Spohn, both of Corpus Christi; Robert Driscoll, Jr., Uriah Lott, and Richard King, all of Nueces County; John G. Kennedy, James B. Wells, Francisco Yturria, and Thomas Carson, all of Cameron County. Lott served as the first president of the St. Louis, Brownsville & Mexico (Werner 2008).

To fund construction of the railroad, donations of land and money were solicited from counties and property owners. Construction began at Robstown in August 1903, and the 142 miles to Brownsville opened in July 1904. Sinton, Texas, was reached on April 10, 1905. The company secured trackage rights over the Gulf, Colorado & Santa Fe Railway to complete tracks to Houston and beyond. By the end of 1912, the company owned and operated 502 miles of main track. Records show that in 1916 the railway earned $1,560,000 in passenger earnings and freight earnings of $2,300,000, and owned 56 locomotives and 1,808 cars (Werner 2008).

The Rio Grande separated the railroads in the United States and Mexico, impeding trade opportunities. In 1908, Congressman John Nance Garner introduced a bill into Congress providing for the construction of a bridge spanning the river and connecting the two railways. Benjamin F. Yoakum, magnate of the St. Louis, Brownsville & Mexico Railway, signed an agreement in 1909 with representatives of the Mexican National Railway, which made the railroads equal partners in the Brownsville & Matamoros Bridge Company. Construction began in 1909. As the first permanent bridge built across the Rio Grande, it was 227 feet long and cost approximately $225,000 (Brownsville & Matamoras Express Bridge 2008).

In 1920, the St. Louis, Brownsville & Mexico increased its track mileage to a total of 585 miles. Five years later, the railway became part of Missouri Pacific Lines but continued to operate as a separate company until a merger with the Missouri Pacific in 1956. The railroad also owned a 25 percent interest in the Houston Belt and Terminal Railway Company and a 50 percent interest in the Brownsville & Matamoros Bridge Company. At the end of 1955, the company owned or leased 98 diesel units and 4,377 cars. In that year, it had passenger revenues of $461,554 and freight earnings of $15,759,273. All of the branch lines of the former St. Louis, Brownsville & Mexico in the Rio Grande valley have either been abandoned or sold. The line between Harlingen and Mission is operated by the Rio Valley Switching Company, and the track between Mission and Sam Fordyce is now part of the Border Pacific Railroad (Werner 2008).

The St. Louis, Brownsville & Mexico railroad corridor was constructed through the McFaddin Ranch in 1906. A depot was placed on the ranch and a small community soon grew up around it. The ranch headquarters also was moved to the new town site from its original location near Kemper's Bluff. Originally named Marianna by the railroad company, the town's name was changed to McFaddin in 1923 at the behest of Allen McFaddin. A post office opened there in 1907, and a Western Union station and Wells Fargo office soon followed. For a time, the train made a scheduled stop for passengers and to deliver packages and letters. After scheduled train service ceased, an outgoing mail pouch was hung from a pole near the track, and a hook on the train snagged it; incoming mail was tossed to the ground without the train ever stopping (Hand 2000:101, 103; Roell 1990b:73–74). A steady decline in rail traffic occurred from the 1940s through the 1960s. The railroad depot was closed down and demolished around 1965 (McCan, personal communication 2008).

RANCHING, CATTLE, AND AGRICULTURE DURING THE TWENTIETH CENTURY

Commercial farming of diverse crops in Victoria County began to develop during the 1890s as farmers gained better knowledge of cultivating prairie soils. By the mid-twentieth century, mechanization began to revolutionize agricultural production methods. Labor requirements plummeted while yields improved, resulting in increased farm incomes. The expansion of irrigation after World War II brought much greater percentages of land into production. Irrigation, combined with the use of commercial fertilizer, enhanced crop yields to an even greater degree. All these trends also allowed for greater crop diversification, while scientific research introduced new crops to the state. For example, a hybridization of grain sorghum turned Texas into a major locus for the cattle feed industry by the early 1970s. Consequently, the total farm population fell throughout Texas during the latter half of the twentieth century and small farms were consolidated into ever greater entities. By 1990, the census recorded 185,000 residents engaged in farming and the average farm size stood at 700 acres (Dethloff and Nall 2008).

Developments in agriculture benefitted cattle ranching by supplying supplemental feeds for the improved livestock ranchers had bred (Wolff 1968b:390). As the cattle industry matured during the late nineteenth century, a number of slaughterhouses were established, especially along the Gulf Coast. At first, these purchased old cows and those deemed unsuitable for long-range shipping. Meat packing plants followed by the 1880s, and Texas became an exporter of canned and packaged meats as well as live cattle (Dale 1930:102).

Durham, Brahman, Hereford, and Sussex beef cattle were among the breeds introduced to Victoria County during the nineteenth century. Durhams, also known as Shorthorns, arrived in the county as early as the 1850s when John A. Emison brought a blooded herd from Kentucky in 1851. Brahman cattle were preferred by James McFaddin, who began importing blooded bulls during the late 1870s. His ranch maintained a breeding program involving Brahman and Hereford cattle through the mid-twentieth century. Local ranchers imported the first Herefords sometime around 1890 from northwest Texas, but the breed originated in England. Herefords proved to be especially well suited to the Texas range and became the most popular breed among ranchers. Another English breed, the Sussex, possessed a similar adaptability to the range. Tobe D. Wood is credited with bringing the first Sussex cattle to the county in 1898 (Wolff 1968b:390–393).

Texas Fever, caused by ticks, plagued Texas ranchers through much of the nineteenth century and even led farmers in neighboring states to prevent some cattle drives during the antebellum period. The fever could devastate an unprotected herd. A dipping system was introduced by 1894. John Welder of Victoria County and Robert Kleberg of the King Ranch ranked among the first to install dipping vats. The programs initially experienced only limited success. After the discovery of oil at the Spindletop field in 1900, oil began to be used as the body of the dipping solution and dipping became much more effective. Compulsory dipping was introduced in 1922, and Victoria County ranchers soon had the ticks largely eradicated (Wolff 1968b:394).

Such endeavors, as well as round-ups, cattle drives, and routine inspection required cooperative efforts. Ranchers also sought to pool their resources to lobby for favorable legislation and represent general industry interests. By the late nineteenth century, cattle raisers' associations began to be formed. The best known of these was the Northwest Texas Cattle Raisers' Association, formed at Graham in 1877. Its territory extended from the Colorado to the Red

rivers. The area was divided into districts and members in each district accepted appointments to watch for stray animals and return them to their owners. Brand inspectors began to be appointed in 1883 to monitor cattle driven from one region to another or shipped to market. A convention held each year provided a venue for officers and various committees to make reports and plan for the following year. The group's operations and success at influencing legislation soon led its practices to be adopted elsewhere (Dale 1930:105–106).

In March 1884, Victoria area ranchers founded the Southwestern Cattle Raisers' Association. H. P. Jordan served as the organization's first president, with James A. McFaddin as vice-president, George Vineyard as secretary and manager, and Theo Buhler as treasurer. The first board of directors included McFaddin, R. Driscoll, Tobe D. Wood, H. P. Jordan, John Keeran, John Welder, G. A. Levi, George Overton Stoner, William H. Crain, H. T. Clare, and W. H. Thomas (Petty 1961:91). Circa 1895, this group, as well as other local associations, joined the Northwest Cattle Raisers' Association. Reflective of the membership expansion, the group's name changed to the Cattle Raisers' Association of Texas. In 1921, the Panhandle and Southwestern Stockmen's Association merged with the organization and the name changed again, this time to the Texas and Southwestern Cattle Raisers' Association (Dale 1930:105–106).

The Texas and Southwestern Cattle Raisers' Association experienced great success over the course of the twentieth century. Members reported owning 1.385 million head of cattle in 1895 and, by 1945, the total had grown to 3.5 million. Programs have focused on improving livestock; reducing or eradicating diseases and pests such as screwworms; supporting agricultural education; and continuing to represent members' interest in farm legislation, taxation, pesticide regulation, and workforce concerns (Marshall et al. 2008).

The cattle industry remained economically significant to Victoria County throughout the twentieth century. In 1930, the county held 93,997 head of cattle, placing it first among Texas counties. By 1948, the total number of cattle had dropped to 76,024 head, but the county stood sixth in Texas in beef production, and 519,648 acres remained devoted to rangeland. A significant portion of agricultural development in the county was geared toward serving cattle ranchers' needs. Crop diversification and industrial development also made Victoria County a leader in the stock-feeding industry after World War II. With more land devoted to this purpose, however, the total number of cattle in the county decreased. In 1984, there were 69,000 head of cattle, although this amount still placed Victoria County in the top third of cattle-producing counties in Texas and third among the gulf coastal counties (Mooney 1959:23; Roell 1990a:129, 131).

Cattle ranching in the late twentieth century experienced many changes that revolutionized the industry. By the 1950s, the ranching industry had fully recovered from the post-World War I and Great Depression downturns, and stock farming and a crop-livestock system gradually increased. The majority of crops grown on Texas ranches served as supplements to grazing on enclosed pastures. The modern Texas ranch is a highly developed enterprise with miles of fencing, many water sources, permanent corrals, and loading chutes. The corrals replaced roundup grounds, cutting gates replaced cutting horses, and loading chutes and trailer trucks replaced trails and cattle drives to distant markets. The modern ranch requires a heavy capital investment for land and improvements that differs greatly from early ranches with a meager headquarters and open unimproved rangeland (Richardson and Hinton 2008).

The feedlot industry rapidly increased after World War II and continued to grow throughout the latter half of the twentieth century. From 1958 to 1968, there was a 250 percent increase in the number of cattle on feedlots. By the end of this period, Texas ranked third in the nation in cattle feeding, and by the mid-1980s, the state led the nation in the category. By 1990, the Texas feedlot industry contributed $11.2 billion to the state's economy, with the main concentration in the northern Panhandle. The expansion of slaughterhouses coincided with the rise of the feedlot industry (Richardson and Hinton 2008).

The McFaddin/McCan Cattle Breeding Program

As previously noted, James McFaddin began enclosing his extensive pasture land with barbed wire fences during the early 1880s. Only by fencing pastures and securing herds could selective breeding take place, and McFaddin took an early interest in improving the bloodlines of his cattle. Between 1878 and 1881, he began experimenting with crossbreeding Brahman bulls with his existing herd, using foundation stock he acquired in East Texas and Louisiana (Petty 1961:163; Whitaker 1941:18; Wilson and Roell 1990:72). The Brahmans were especially noted for their size, with bulls that easily weighed more than 2,000 pounds and cows as large as 1,600 pounds. They also had the advantage of a natural resistance to the ticks that caused Texas Fever. James imported only a small number of the breed, and over time the bloodline's qualities became diluted. His son, Allen, took an even greater interest in improving the stock bloodlines with Brahman cattle. In 1904, he persuaded James to purchase another bull and cow for breeding purposes. Although the cow soon died, the bull became the foundation sire for the McFaddins' Brahman herd (Hand 2000:102; Wolff 1968a:397–399).

James's eldest son, Allen, entered the ranching business in his own right at an early age. He began by working as a ranch hand and learning from his father. With $180 he had saved from his monthly $25 wage used as a margin, he bought a carload of calves on credit and went with them to market in New Orleans. He continued as a cattle buyer until 1888, when he had earned enough money to marry. After James's death in 1916, Allen managed the ranch. Working with Abel P. Borden and James Sartwell, he crossbred Brahmans with other Texas cattle breeds and was a consultant to the legendary King Ranch breeding program, which produced the Santa Gertrudis breed (Wilson 1990b:72). He also helped organize the American Brahman Breeders Association in 1924 and served as its first president (Grimes 1968:410).

The same year, James McFaddin's grandson, Claude McCan, took over the ranch's management, including its breeding program. Using 10 Hereford bulls, McCan began crossbreeding them with the ranch's existing herd, which included approximately 700 purebred Brahman cows.

The cross-breeding process was complicated and required the experienced eye of Claude McCan to choose breeding stock, which were separated from the larger herd. Progeny of the first mating were half-Brahman and half-Hereford. McCan selected the best of the half-breed calves and retained them for future breeding, allowing the others to remain with the main stock. That generation of cows was bred with Hereford bulls to produce offspring that were one-quarter Brahman and three-quarters Hereford, a proportion that McCan had determined would yield the desired characteristics in his cattle. Again, the best of these calves were retained for future breeding. Cattle of like bloodlines were kept in separately fenced pastures ensuring the bloodlines. The first major test of the new breed came when the quarter-bred cows were bred with other quarter-bred bulls. Often this was the point when breeders experienced the most

trouble in developing a new breed, as the calves were born with inferior qualities to the parent stock. McCan's expert calf selection for the breeding herd through the first crosses proved to be successful as the quarter-breds were bred with each other and produced calves that showed superior qualities to the parent stock. The best of these true-bred cattle were again separated from the main herd to serve as the breeding herd. The remaining cattle were then culled and sold. Years of experimentation resulted in a hybrid breed of beef cattle that were three-quarters Hereford and one-quarter Brahman; bred true across generations; showed improved qualities over their sires and dams; and did well under coastal climatic conditions. By the 1940s, McCan closed the herd to outside stock to preserve the bloodlines he had created (Hand 2000:102; Letz 1958:np; Wilson 1990a:71; Wolff 1968b:393).

When Claude McCan began cross-breeding Brahman cows with Hereford bulls in 1925, he had several goals in mind. The Brahman cattle were often scorned by beef producers and meat packers as inferior in beef quality. They also were used in Fort Worth rodeos as wild bulls, which gave them a reputation as an ill-tempered breed that would necessarily produce beef of a tough quality. Their vigor and wildness while in corrals and chutes also often resulted in bruises from trying to escape. Meat packers tried to avoid purchasing bruised meat, and as a result, shunned Brahman cattle. By cross-breeding the Brahmans with Hereford cattle, McCan was able to produce cattle that closely resembled full-blooded Herefords and generally were accepted by cattle purchasers for all purposes. The Hereford influence resulted in the Victoria Breed retaining the essential beef characteristics that packers sought. They retained easy fleshing and early maturity. Meanwhile, the Brahman influence brought about a hardy animal of a large scale and vigor, weighing from 1,100 to 1,500 pounds in range conditions. The breed retained the Brahman's natural resistance to the heat, insects, and parasites of the Gulf Coast country. They were beefy, had a good disposition, and were good mothers. Calves grew quickly, with a healthy weight at weaning, and were able to go to feed lots with similar results to other cattle. Above all, the breed developed by McCan retained Hereford colors and markings with only occasional Brahman influence and was able to retain buyer desirability (Letz 1958: 27, 65; McCan, personal communication 2008; Wolff 1968a).

By 1958, there were 800 cattle in McCan's breeding herd. These consisted of only the best of McCan's cattle. They were personally selected by Claude McCan, Sr. The remaining cattle were kept separate from the breeding herd and comprised the main commercial herd of the McFaddin Ranch. These latter cattle were sent to feed lots and sold to meat packers. Some also were sold to other ranches, primarily in the Southwest, to serve as breeding cattle. They helped to propagate the breed throughout the region, with large concentrations in the Southwest, Florida, Mexico, and eventually South America (Letz 1958:65; Scruggs 1969:35).

In the past 25 years, Robert McCan has begun to infuse new blood into the McFaddin herd to encourage heterosis, or hybrid vigor. He purchased several full-blooded Hereford bulls and Brahman cows, which are bred with half-breeds to achieve the desired one-quarter Brahman, three-quarters Hereford bloodlines. The infusion of new blood is important to the herd to increase performance. After the Victoria Breed begun by Claude McCan was closed to outside blood, it was line-bred for many generations. This process increased uniformity, but reduced production. If the trend continued, there would be too much inbreeding and the quality of the cattle would decline. The new cattle purchased by Robert McCan are kept separate from the main herd, and when the desired bloodline is achieved, they are infused with the main herd and help increase heterosis (McCan, personal communication 2008).

In the past, a feed lot operated on the McFaddin Ranch that used corn silage as a base feed and utilized winter pastures of oats, wheat, and rye grass. Presently, the main herd is grazed only on native pastures. Little supplemental feeding is required because of the increased quality of forage achieved by rotational grazing and prairie restoration programs started by Robert McCan. When the calves are big enough to ship, they are sent by truck to feed lots (McCan, personal communication 2008).

McCan performs culling of cattle on his ranch when cows reach 10 to 12 years of age. Cows with defects such as bad eyes or udders, cows that are not raising good calves, or repeatedly dry cows are culled. In addition, cows brought in to increase heterosis in the Victoria Breed but do not retain the desired bloodline are culled before mingling with the blooded herd (Schreiber 1997).

By 2000, Robert McCan retained more than 3,700 mature cows and some additional heifers on his three ranches in Victoria, Refugio, and Goliad counties. He shipped approximately 1,200 to 1,300 steers per year, and used several different marketing schemes to increase profitability. According to McCan, his marketing plan depends on the market in any given year. Some years it is most profitable to sell direct to order buys or farmer/feeders, while other times he has retained ownership while the cattle are sent to the feedlot. When calf prices are high, they often are sold off the ranch. McCan admits that the Victoria market is always $2 to $3 off Amarillo or San Angelo prices because of the cost of freight, but asserts that his calves top the market (Schreiber 1997).

Recognition of the Victoria Breed

Cross-breeding cattle in Texas to combine the desirable characteristics of multiple breeds dates back to the introduction of the shorthorn cattle, which were more easily adapted to fenced pastures and developed more quickly than the existing longhorn stock. With the later introduction of Brahman and Hereford herds, cross-breeding continued to advance and adapt with the new varieties of breeds available to ranchers.

Early cattle in Texas consisted largely of Spanish and Mexican breeds including Longhorn cattle. Longhorn cattle are a hybrid of the Spanish Criollo stock and English cattle that arrived with early settlers from the Midwestern states in the mid-nineteenth century. The two breeds intermingled on the open prairie and cross-bred. The breed emerged as a recognizable stock after the Civil War. Longhorns were ideal for long cattle drives because of their long legs and hard hooves. The cattle also were immune to Texas Fever, but carried the infested ticks on their bodies, which easily spread and infected other breeds on cattle drives. Despite attempts to restrict movement of the Longhorn and curtail outbreaks of Texas Fever, longhorns continued to make the trips north and contributed a great deal to the Texas economy. When the Great Plains were opened to settlement after the Indian removal in the 1870s, the majority of the new ranches were established with Texas longhorns (Worcester 2008).

The spread of barbed wire, enclosed pastures, and the “Big Die-Up” of the late 1880s all contributed to the decline of the Texas Longhorn. Longhorns were notoriously slow to develop. With the advent of controlled breeding and the end of the free range made possible by barbed wire, many ranchers began to favor other breeds of cattle that matured more quickly. Ranchers cross-bred Longhorns with shorthorn Durhams and, later, Herefords, which produced excellent beef that developed faster. By the 1920s only a few small herds of Longhorns remained. Later in

the decade, the U.S. Forest Service began selling surplus longhorns from the Wildlife Refuge established to save the breed from extinction. The cattle gained a new appreciation because of their longevity, disease resistance, ability to survive on marginal pastureland, and lean quality of beef (Worcester 2008).

Shorthorn cattle were introduced in Texas during the 1850s. Native to England, the breed was very popular in Texas as an alternative to the Longhorn. In contrast to the Longhorn, shorthorns mature early and develop rapidly, leading to a higher yield than the Longhorn. As the first "improved" cattle breed in Texas, the shorthorn was largely responsible for the near extinction of Longhorn cattle. Shorthorns were bred with longhorns upon their arrival to introduce the beneficial characteristics of the shorthorn to the breed, such as their quick development. Shorthorns are known for their success in cross-breeding programs (Texas State Historical Association 2008c).

The next improved cattle breed to arrive in the state was the Hereford. Herefords took well to the open range conditions found upon their arrival during the late 1870s and eventually supplanted the shorthorn as the most dominant breed in the state. Also native to England, the Hereford as it is known today was developed in the late eighteenth century. They are highly prized for their beef, as well as milk production, though the latter plays a smaller role in Texas Herefords. Like the shorthorn, Herefords develop quickly, and ranchers preferred the breed over the Longhorn because of their high quality beef production and their natural adaptability to the local climate (Leatherwood 2008a).

The Brahman cattle, or *Bos indicus*, originated in India thousands of years ago and first arrived in the United States in 1835. Cattle that were at least part Brahman arrived in Texas by the 1860s. Purebred Brahman cattle are usually not used for beef production, as early meat packers often refused to purchase them because of their reputation for being wild, with tough and often bruised meat. Brahmans are mainly used to improve other cattle breeds with their desirable characteristics. Brahmans are well adapted to the climate of Texas, but have difficulty in winters of Kansas and in the Midwestern feed lots. The cattle's body temperature averages one degree cooler than Herefords, and their large ears and dewlap help to cool the animals during hot Texas summers. Brahmans are able to travel long distances from water, extending grazing ranges, and are resistant to ticks that cause Texas Fever. Their ability to deal with heat allows them to graze when other cattle would likely be seeking refuge in the shade. The McFaddins were one of the first ranching families to import pure Brahman cattle to Texas (Fagan, personal communication 2008; Leatherwood 2008b).

The "Victoria Cattle" are a pure strain, meaning the bloodlines are closed; however, individual records on the cattle are not kept, so the breed is not officially registered. The bloodline of the breed is a combination of one-quarter Brahman and three-quarters Hereford. The McCans believe that it is necessary to retain at least 75 percent of the Hereford bloodline to make the cattle attractive to buyers. Claude McCan named the cattle the "Victoria Breed" in 1969 after the county in which James McFaddin established the family ranch in the late nineteenth century. The ranch is also where the breeding of the Victoria Breed took place. Claude McCan is one of the few men in recent history to develop a new type of cattle breed (McCan, personal communication 2008; Scruggs 1969:34). Since the late 1960s, no new cattle breeds have been recognized in the United States.

Historic photographs at the University of Houston-Victoria Photo Collections Department provide additional documentation of the cattle breeding program at the McFaddin Ranch (Figures 25–27). An early twentieth-century photograph shows James McFaddin with Prince, the Brahman bull that was the foundation of the McFaddin herd (see Figure 25). Distinctive physical characteristics of the breed are clearly apparent, most notably a prominent dewlap that runs from the lower jaw to upper chest and a prominent hump above the shoulders. Brahman cattle are typically varying shades of grey or red with black at the muzzles, hooves, and ends of tails, while Hereford cattle bear red and white markings throughout. The horns on Brahman cattle sweep back from the forehead and show a gentle curve, while Hereford cattle horns protrude to either side. Circa 1920 photographs of McFaddin cattle show animals that retained the markings and horn type of Brahman cattle, but these animals had diminished dewlaps and shoulder humps, both of which were minimized after crossing with Hereford cattle (see Figures 26 and 27). With blood percentages of three-quarters Hereford and one-quarter Brahman, the Victoria cattle bear a closer resemblance to purebred Hereford cattle, although traces of the dewlap and shoulder hump remain visible.

Ranch Land Management during the Twentieth Century

New strategies in ranch land management emerged during the twentieth century that focused on more efficient and environmentally conscious use of land. Soil and water conservation, rotational grazing, and native prairie restoration are among the most important aspects of the movement. With 75,000 acres of land managed holistically for livestock and native wildlife, Robert McCan and McFaddin Enterprises are among the leaders in the recently emerging field. McCan holds many attitudes that encourage the use of rotational grazing, prescribed burning, brush management, and native species plantings. The three ranches that make up McFaddin Enterprises regularly participate in studies on prescribed burning, quail management, invasive species such as fire ants, riparian vegetation, and water quality (Grazing Lands Conservation Initiative 2007).

Soil and Water Conservation

Soil and water conservation plays an important role in modern ranch land management. During the nineteenth and early twentieth centuries, agricultural practices took little account of effects on the land. Cotton and corn were continuously planted on the same fields, leeching valuable nutrients from the soil. Between 1926 and 1937, cotton production on fields with a slight slope, averaging 2 percent, lost an average of seven tons of soil per acre to erosion. During the same period, corn planted in the same way contributed to a loss of 10 tons of soil per acre. The problem was due in large part to a lack of crop rotation and occurred nationwide. To combat the issue, the United States Congress initiated the Soil Conservation Service in the 1930s (Etienne-Gray 2008).

Local districts were created in Texas under the Texas Soil Conservation Law of 1939 and charged with implementing conservation programs. The districts were composed of a governing body of five local landowners who were elected from neighboring landowners. By 1993, 211 conservation districts existed in the state. The national Soil Conservation Service provided technical assistance to each Texas district. The districts promoted crop rotation, conservation plans, and educational programs. In the 1980s, it was determined that the main causes of soil and water loss included improper grazing, invasive brush and weeds, water and wind erosion on

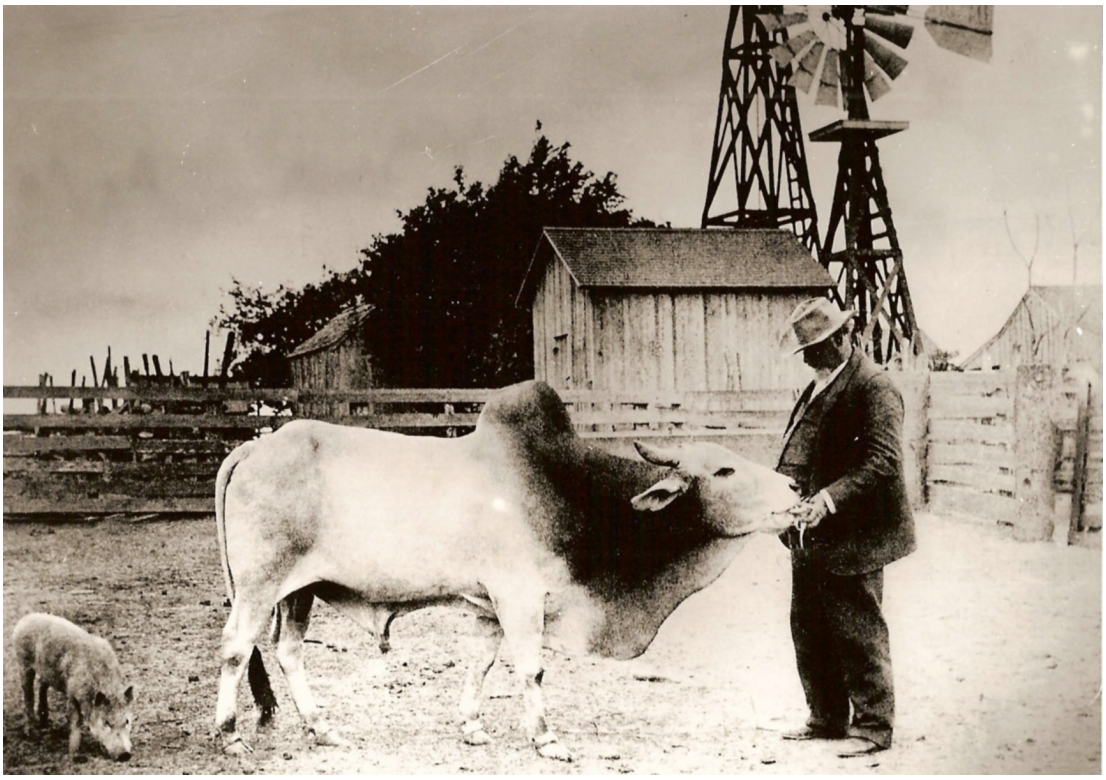

Figure 25. Early twentieth century photograph of James A. McFaddin with Prince, a Brahman bull (Local History Collection, Victoria College/University of Houston-Victoria).

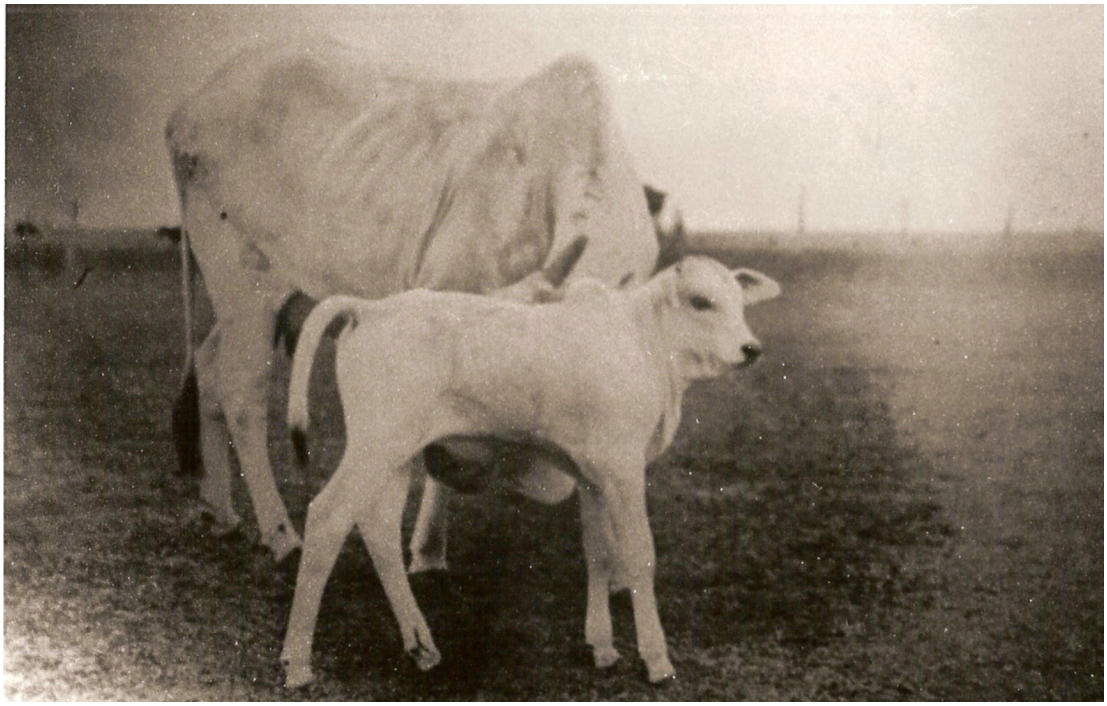

Figure 26. Circa 1920 photograph of cow and calf on the McFaddin Ranch (Photograph Collection, Victoria College/University of Houston-Victoria).

Figure 27. Circa 1920 photograph of cattle being branded on the McFaddin Ranch (Local History Collection, Victoria College/University of Houston-Victoria).

cropland, and ineffective irrigation. Measures such as rotational grazing, prairie restoration, and more effective irrigation were adopted and have made a large impact on soil and water conservation. Robert McCan has served as the Director of the Victoria Conservation District and has used his expertise in the above methods to advise the public and improve soil and water conservation in the county (Etienne-Gray 2008).

Rotational Grazing

During the late nineteenth century, as cattle ranchers arrived in Texas in greater numbers, bringing with them large herds of cattle, the free-range system of grazing was not unduly burdensome on local plant life because the cattle were able to move through an area without hindrance. After the introduction of barbed-wire fencing, continuous grazing in a single pasture significantly degraded native grasses. Deterioration of the rangeland was a gradual process that went largely unnoticed for many years. The end result was the loss of the more productive plants and grasses and their replacement with woody plants and more fibrous, less desirable grasses. The miles of open grasslands gradually were being replaced with invasive species and woody brush, which consumed enormous amounts of valuable water (Kelton 2007).

Domesticated cattle graze land much differently than native fauna such as buffalo that once roamed the grasslands of Texas. Prior to white settlement, buffalo passed through eastern Texas several times a year, grazing on the native grasses as they passed through. When the buffalo were driven off the land and replaced with cattle, the change brought about a major alteration in the

local ecosystem. Cattle move slower and prefer to graze in one area, but buffalo quickly passed through an area, grazing along the way but leaving the majority of the grasses intact. Cattle tend to overgraze an area where they find succulent grasses, depleting the forage down to the ground. By instituting rotational grazing, ranch managers are able to simulate the movement of buffalo, by moving the cattle off a specified paddock before it becomes overgrazed. This contributes to the overall health of the grasslands and the natural ecosystem (wildlife biologist Kirk Feuerbacher, personal communication 2008).

Rotational grazing is a key component of modern ranch land management. Not only does it help increase the health of the ranch land by promoting healthier forage and native plants, but it increases the profitability of animals grazed on rotating pastures. Conversely, with continuous grazing on one pasture, cattle are able to choose when, where, and what they will graze on, and how long they will graze in a certain area. This usually means that the animal chooses to feed on forage in one specific area that is succulent, but low in quality, while in other areas, the forage becomes mature and fibrous and less attractive to the animal. When land is overgrazed, nonnatives plants often fill the void left from overgrazed native grasses. Rotational grazing utilizes inexpensive fencing to subdivide large pastures into several smaller ones and prevent overgrazing. The approach also helps support native plant life (Henning et al. 2000:2).

Rotational grazing allows the rancher to decide how long the herd grazes in one paddock, leading to more efficient utilization of the pastures. Typically, cattle graze in one paddock anywhere from two days to two weeks, depending on the amount of paddocks in rotation. The short periods spent in each paddock results in the quick defoliation of forage to a target height, at which point the cattle are moved to a different paddock. The recently grazed field is allowed to rest and the grasses grow back to a height suitable for grazing. This frequent movement keeps the forage in an active growing state. In contrast, cattle in continuously grazed pastures will be selective about which forage to eat, often leaving as much as 50–70 percent to mature, when it becomes less palatable for the cattle.

In addition to providing healthier forage, rotational grazing reduces the cost of machinery, fuel, and facilities necessary with continuously grazed pastures. It reduces pasture waste that occurs when cattle graze selectively and allow forage to mature. Cattle are unable to be as selective with their choices because there are fewer options in the smaller pastures. The healthier plants have a higher nutrient level and therefore, less supplemental feed is necessary. Animal waste is distributed more efficiently under rotational grazing because cattle utilize the entire paddock, rather than remaining concentrated along shaded sections and near water sources. The manure provides important nutrients for the soil. Botanical composition also is increased because of more evenly distributed fertilizer and less overgrazing (Henning et al. 2000:2).

The three main benefits of rotational grazing are the efficient delivery of nutrition, optimized forage yields, and increased economic profit. The nutritional needs of livestock are met more efficiently with rotational grazing because leafy green pasture provides higher levels of proteins and energy for the grazing livestock. It prevents forage from completely maturing, which is when anti-quality factors, such as endophyte in tall fescue, occur. Cattle prefer regrowth to mature forage because it is more succulent and less fibrous, and will avoid taller grasses to pick out the stubbly regrowth when able (Berger 2007:154; Henning et al. 2000:3).

Rotational grazing optimizes forage yield and quality as well as pasture persistence. Ranchers are able to move cattle from one paddock to another when the forage reaches a desired height. This prevents overgrazing cattle from destroying the root system of the forage, thus preventing its timely regrowth. Forage kept in an active growing state allows quicker and even regrowth. Moving cattle into a paddock before the forage reaches maturity increases the quality of feed the cattle are receiving. Carbohydrate reserves remaining in the roots and stubble when cattle are moved to a different paddock result in the maximum regrowth rate and aid forage during drought stress, as enough reserves are left to support the plant until the next rainfall (Henning et al. 2000:3–5).

The improved efficiency and productivity of livestock grazed on a rotational basis results in greater economic profits. Cattle receive more nutrients from grazing the smaller paddocks than they do on larger fields where they are able to graze selectively, resulting in an increased gain per acre of grazable land. Much of the forage on continuously grazed land is lost to overmaturity, trampling, soiling, and death. A recent University of Kentucky study found rotational grazing to increase utilization of forage by as much as 45 percent. Cattle on rotating pastures get healthier forage with more nutrients, making the cattle themselves healthier (Henning et al. 2000:5–7).

Robert McCan began cross-fencing his pastures in 1993 or 1994 and rotated his cattle between pastures. A drought struck southcentral Texas the following year and the results were apparent. While the majority of the ranch land in the area suffered under the drought conditions and turned brown, McCan's cross-fenced paddocks remained green. By 1996, McCan partnered with the Natural Resource Conservation Service (NRCS) and the U.S. Fish and Wildlife Service in the Native Prairie Restoration program. The program helped ranchers manage grazing, prescribed burns, and brush control. The NRCS and Fish and Wildlife Service shared half the costs of implementing the techniques (Fagan, personal communication 2008; McCan, personal communication 2008).

Each of McCan's pastures is now operated under a rotational grazing program. Most of the pastures, which are approximately 600-700 acres, rest at least two, and sometimes three, months between grazings. The rotations average to about six pastures for each herd of cattle, numbering approximately 300 cattle per herd. The cattle graze a pasture for two weeks and move on to the next. By the time they return to the first pasture, it has had two months of rest since the previous grazing. Over a year's time, this equals approximately six months of rest each year.

As discussed above, the McCan cattle do not graze the grass completely to the ground, but are moved to the next pasture, leaving carbohydrate-rich stubble. This helps the remaining grass get a healthy start at regrowth through photosynthesis. When the grass is grazed completely to the ground, it must draw more nutrients from the soil to regrow, rather than using the nutrients in its own remaining stubble. By confining the cattle to small pastures, McCan is able to force them to graze over all the forage in the pasture, rather than selecting only their favorite grasses (McCan, personal communication 2008).

This approach helps restore the pasture and prevents invasive species from taking over where the native grasses have been overgrazed. These native grasses, such as vetch, have higher levels of protein than some nonnative and other fibrous grasses. The higher protein levels lead to healthier cattle and deer populations. McCan tries to retain about 50 percent of a grazed plant when rotating pastures. During the spring season when rain and sun are abundant, the cattle are rotated faster, and in slow growth periods, the rotation slows, causing harder grazing but also a longer rest period between grazings (McCan, personal communication 2008).

Sixty percent of grazing occurs within 400 yards of a water source. To provide water to each of the subdivided pastures, McCan drilled wells and installed windmills in each pasture. All of the pastures contain wells, which are spaced at large distances from each other. This ensures that cattle will not congregate in one section of the pastures, but instead will move around, forage each section, and spread fertilizer throughout the pasture. The windmills store excess water in a connected cistern while the wind blows, so that if there is a prolonged period of time with no wind, the cattle can drink down the stored water from the cistern. There is often a neighboring overflow pond in addition to the cistern. The pond is utilized most by deer that prefer to drink from natural sources rather than concrete cisterns and troughs (McCan, personal communication 2008).

The economic benefits of rotational grazing are apparent through improved livestock efficiency and productivity. In the University of Kentucky study on rotational grazing mentioned above, several states reported increases of beef per acre by 35 to 61 percent. The increase directly results in a reduced forage cost per pound of gain. More beef produced with a lower cost of gain yields greater profits. This increase was even more apparent in dairy cows, which rose as much as 72 percent. Higher nutrient levels from forage also benefit the rancher, as supplemental feed becomes less important (Henning et al. 2000:7). The McFaddin Ranch does not supply any hay to the cattle because their grazing system renders it unnecessary. Some protein is supplied in the winter, but it is kept to a minimum. The only other supplement the cattle receive is a mineral mix, which compensates for a phosphorous deficiency (Schreiber 1997).

Following the rotational grazing program, McCan has noticed little bluestem grass populations increase, as well as Indiangrass and big bluestem. McCan sees the increase in native grasses coupled with a decline in invasive species as a sign that the rotational grazing systems and prescribed burning are working (Schreiber 1997).

Native Prairie Restoration

During the mid-1990s, Robert McCan, great-great-grandson of James McFaddin and great-grandson of Claude McCan, Sr., embarked on an ambitious prairie restoration project at the McFaddin Ranch. The program involves reintroduction of native plant species, rotation of grazing herds, and prescribed burns of pastureland in order to re-create biological diversity within the ranch and to improve the health of herds. A full-time wildlife biologist has been employed at the ranch for more than 10 years to manage the program. McCan's efforts have been recognized by the Sierra Club, Texas Department of Parks and Wildlife, and Texas Wildlife Association, among others. The prairie restoration project has its roots in the American conservation and environmental movement, now well into its second century.

Nonnative plant species were introduced early in Texas ranching. Planting was encouraged by the government and universities to increase forage production quickly because they are easier to establish and acquire and cheaper to plant. Nonnative plants remain popular for livestock forage, erosion control, and ground cover on highway right-of-ways. Nonnative plants, however, have been found to reduce plant species diversity, displace and prevent the re-establishment of native species, and lower soil fertility by reducing nitrogen and carbon accumulation. Native habitats, on the other hand, provide the necessary biological resources to promote biological resilience and stability. Microorganisms, insects, plants, and animals found in native habitats help to provide the food and energy cycles that foster and maintain biological diversity (Fulbright 2001:4; Idsal and Harte 2001:1).

Invasive species that arrived after the deterioration of rangeland caused by cattle overgrazing have thrived. The miles of native grasses soon were replaced with nonnative grasses, weeds, and brush, which easily spread into grasslands left barren by cattle herds. For instance, 60 years ago, the Chisholm Trail that was used to move cattle to market was lined with mesquite trees that grew from seeds left in cattle droppings as they passed through. Beyond the trail, miles of open grassland with very little brush persisted. Today, however, the grasslands are completely covered by mesquite and other woody brush species that have completely taken over the former open prairie. Mesquite and other invasive species have no economic value, but demand large quantities of water and choke out the native grasses (Kelton 2007).

The South Texas Native Prairie Restoration Project was begun by a coordinated effort from the Caesar Kleberg Wildlife Research Institute, businessmen, and private landowners, including Robert McCan, who has served as a member of the Advisory Board. The organization's goal is to educate the public on the importance of native plants and encourage their use, as well as to make sources for native materials economically viable. With the recent trend of ranchers relying more heavily on watershed management, improved livestock grazing, hunting, birding, and ecotourism, there is a greater dependence on native flora. These new tools for revenue generation are most successful with the restoration of native prairies (Maywald 2001:7–8).

Rotational grazing also benefits prairie restoration. Overgrazing leads to stressed plants and a leaching of nutrients from the soil, and then nonnative species fill the void left by the absence of native grasses. In a balanced ecosystem, native grasses are much more resistant to drought conditions. Rotational grazing keeps the lower portion of the grasses intact so they can fully recover during rest periods. They draw the majority of their nutrients from the bottom portion of the plant itself and the sun, keeping both the soil and grass healthy.

Rotational grazing further has benefited prairie restoration through the introduction of native brush to the landscape and reduced amounts of grasslands. Since the cattle do not graze over fields constantly, it gives larger brush a chance to take hold and grow between grazings. Once they are large enough, the cattle will not eat the saplings. Many native and migratory birds will nest in the brush, which is not found on continuous grazing pastures. This helps support the overall biological diversity found on ranches participating in prairie restoration (Feuerbacher, personal communication 2008).

Prescribed burning is one of the most useful tools in prairie restoration. Burning fields allows grass, brush, and other seeds to germinate by exposing them to sunlight and nutrients. The burning also helps return nutrients to the soil, improving the general health of the land. After the fire passes over the fields, top removal is often performed on the larger brush and unwanted species. Removing the tops of brush and small trees such as mesquite helps reduce the amount of water the tree uses for growing, making more water available for other vegetation such as grasses. Top removal can be done manually or mechanically. Herbicides can then be used to kill the root mass of unwanted brush and trees (Feuerbacher, personal communication 2008).

The most difficult part of the prescribed burning program in the Gulf Coast prairie region is the long growing season. The optimal time for performing the burn is after a killing frost, after which grasses will die, allowing for easier burning. Many years, however, temperatures are never low enough to kill the grass and burning becomes difficult. In these years, summer burns may be performed, but the grass does not cope well with burning in the active growing season. As a result, the grass must be looked after and cattle are often kept off these pastures for longer periods than those grasses burned in their dormant season (Schreiber 1997).

The McFaddin Ranch contains several natural windbreaks, which were planted in the 1930s following a series of harsh winters. Many cattle were lost because there was no shelter available for them to take refuge from the cold and wind. The McCans put in windbreaks near water sources, planting them with tamaracks (commonly referred to as salt cedars). Though the winters in recent decades have rarely been frigid enough to warrant sheltering cattle, the windbreaks now serve as excellent habitats for song birds and raptors. Native trees also do not spread to overtake grasslands. Consequently, they are seen as an overall benefit to the ranch's ecosystem (Feuerbacher, personal communication 2008).

The health of wildlife is judged an indicator of the health of the grasslands and the ranch ecosystem as a whole. Native prairie restoration not only benefits the native flora of the area, but also the native fauna. Native animals prefer the habitats created by native flora to the invasive species that take over when native plant life is absent. In addition to the native insects and mammals that prefer such habitats, many migratory birds depend on them for nesting. The McFaddin Ranch is located along the Central Flyway for migratory birds, and many types of water fowl, raptors, and songbirds nest here during their migratory seasons. The prairie restoration program has reintroduced the types of native brush and grasses that these birds need to thrive (Feuerbacher, personal communication 2008).

In 1999, Robert McCan joined the Safe Harbor Program in an effort to restore the natural habitat of the Attwater Prairie Chicken. The ground-dwelling grouse is one of the most endangered birds still living in the wild. In 1900, one million Attwater Prairie Chickens were found in Texas and Louisiana, but the number decreased rapidly over the next century, due mainly to habitat loss through urbanization. By 1999, only 50 of the birds remained in the wild. The Safe Harbor Program is sponsored by the Sam Houston Resource Conservation and Development Council and the U.S. Fish and Wildlife Service. It offers incentives to landowners participating in the Native Gulf Coast Prairie Restoration Program. Robert McCan has enrolled 10,000 acres in the program, which he manages by instituting many of the same policies initiated under the South Texas Native Prairie Restoration Project, such as brush control, rotational grazing, and prescribed burning (*Conservation Voices* 1999).

By partnering with the National Resources Conservation Service and the local soil and water conservation district, McCan is able to double the amount of money that is utilized on brush control. The program, which is administered through the Sam Houston Resource Conservation and Development Council, has been very effective. McCan attributes the program's success to the grassroots campaign under which the program operates, while other similar measures have failed in other parts of the state when administered from the top down. The main difference is the local group's ability to offer protection from regulations resulting from the appearance of endangered species on ranchers' lands (Schreiber 1997).

Mitigation is required to obtain a permit that ensures the species will be taken care of if a rancher develops the land in a use inconsistent with maintaining the species' habitat. The Sam Houston Resource Conservation and Development Council already holds a permit and is able to include landowners who sign on to the Safe Harbor Program. Under the permit, the landowner is only responsible for the number of the endangered species present on the land when they sign onto the program, and not those that might appear as a result of land management practices. McCan's baseline population at the beginning of his participation was zero, meaning no endangered species were found on his land. The prairie restoration and rotational grazing programs practiced on the McFaddin Ranch fit well into the program because they create the healthy prairie habitats that the Attwater Quail and other native species need to flourish (Schreiber 1997).

The land management programs used at the McFaddin Ranch have a complementary relationship and benefit one another. In order for prairie restoration to be completely successful, other programs such as rotational grazing and soil and water conservation must be undertaken. Rotational grazing removes the cattle to provide rest periods for the prairie, allowing it to grow in a way that closely resembles its original state. Soil and water conservation, in turn, help remove the costly brush that draws large quantities of water away from the native grasses, which provide habitats for native species. It is a cyclical system, and one that works best when each program is implemented simultaneously.

HUNTING, WILDLIFE, AND THE MCFADDIN RANCH

Modern technology has greatly increased the efficiency of Texas ranching operations. Electric branding irons are now used on cattle, and "helicopter cowboys" round up and drive cattle to corrals by air. Computers are used to obtain the latest pricing and market information to ensure the maximum benefit of costs and profits. Consumer demands for top quality beef have led to the rise of specific purebred ranching as well as genetic engineering. Foreign export markets are also playing a larger role in cattle ranching as globalization has opened markets in Mexico, Japan, Korea, and Russia (Richardson and Hinton 2008). Conversely, globalization has contributed to the difficulty of maintaining a ranch. Prior to overseas trading markets, spurred on in part by NAFTA, the cattle market was somewhat predictable with several profitable years followed by a downturn. Globalization has disrupted the cyclical nature of the industry. Demand for cattle remains, but operating expenses continue to increase, while distant markets are often able to provide a more inexpensive product (Fagan, personal communication 2008).

Few ranchers today can maintain an entire ranch based solely on income from raising cattle. A good calf currently sells for approximately $500 on the open market, but according to recent Texas A&M studies, it takes about $550 a year to raise such a calf. This includes taxes, operational expenses, feed for cattle, and veterinarian bills, among other factors. According to Robert McCan, by 1999, calves were still being sold at the same level as 1970, but required modern costs to raise. Additional improvements to the land also contribute to the cost of raising cattle. Fencing and water generation are necessities to raise healthy cows and require a significant investment; once the fences are built and the wells are dug, they do not themselves generate income. Supplementing income with hunting and oil and gas leases helps keep ranching financially feasible (Fagan, personal communication 2008; Schreiber 1997).

Recreational hunting has been and continues to be a popular activity in Victoria County. Local sportsmen's clubs and individual hunters lease hunting rights from ranch owners. Seasonal hunting cabins have been placed in many areas. These range from small trailers and campers to frame structures. Deer are one of the most popular game animals, and deer stands and feeders dot the McFaddin Ranch landscape. The stands and feeders are generally of temporary construction, built with materials such as steel tube, corrugated plastic, oriented strand board, plywood, corrugated metal, and sheet metal.

Hunting for sport began to gain popularity in the United States during the late nineteenth century. Several explanations have been put forth for the phenomenon. Improvements in firearms technology allowed weapons to become increasingly precise and simple to use. Access to remote areas where game still flourished increased as a result of transportation enhancements. Most importantly, however, as early as the mid-nineteenth century, the social and therapeutic benefits

of hunting began to be promulgated. Outdoor activities, such as sport hunting, promoted physical fitness and served as an antidote to what, during the nineteenth century, was widely seen as the "feminization" of American culture. Proponents, such as Theodore Roosevelt, are perhaps most representative of this ideology (Miner 2001:42).

Private hunting and fishing clubs began to be established by successful businessmen. These organizations conferred social status upon their members as well as encouraged participation in outdoor sports. Just as hunting and fishing gained in popularity as recreational pursuits, however, fish and game populations plummeted as a result of lumbering, coal mining, and agricultural practices that obliterated much of their natural habitat. Newly minted sportsmen responded by lobbying for the establishment of conservation programs at the state and national levels. Their efforts were in part responsible for the establishment of many state and national parks during the late nineteenth and early twentieth centuries (Miner 2001:42).

In Texas, the first attempt to regulate hunting came in 1861, when the state legislature imposed a two-year moratorium on hunting quail. Maintenance of fish populations occupied early regulation efforts, leading to the creation of the Fish and Oyster Commissioner government post. In 1907, the state legislature gave the commissioner responsibility for hunting regulations as well, and changed the job title to Game, Fish, and Oyster Commissioner. The first hunting licenses in Texas were sold in 1909. By 1928, Texas had 80 game wardens responsible for enforcing hunting regulations. The following year, the state established the Game, Fish and Oyster Commission, which was composed of six members. Its major duties included enforcing state hunting regulations for birds, game, and marine life; issuing hunting, fishing, and trapping licenses; proclaiming open seasons and setting bag limits on various species; operating fish hatcheries; administering game preserves; supervising oyster beds; and educating the public about the state's wildlife resources. Texas began a statewide conservation program in 1946. The commission's name was shortened to Game and Fish Commission in 1951, and 12 years later it merged with the State Parks Board to form the Texas Parks and Wildlife Department (Smyrl 2008).

Residents of rural areas often looked askance upon the urban recreational sportsmen. Particularly during the late nineteenth through the mid-twentieth centuries, hunting by rural residents often was vital to providing sufficiently for a family and ensuring variety in diet. These types of socioeconomic and cultural differences distinguished rural hunters from their urban counterparts. Management of game refuges, especially in the form of restrictions on hunting certain species, limiting hunting to certain seasons, and issuing licenses to hunt, were not welcomed by rural hunters. Yet the management approach was perfectly in keeping with other Progressive Era programs such as good roads, public hygiene, and parks for passive recreation, all of which sought to enhance quality of life and thereby produce "better citizenry" (Miner 2001:44).

The sportsmen's movement prevailed, however, more as a result of simple economics and a quickly proven record of success. The social and economic status of the upper-class sportsmen assured that they had the means to influence public policy. Just as important, the rapid rebound of game populations in designated refuges demonstrated that management principles could benefit everyone, not just an elite few (Miner 2001:44–45). By the late twentieth century, sportsmen's clubs of all stripes and in all parts of the country adhered to wildlife management principles. Furthermore, by purchasing state-issued licenses and permits, sportsmen have contributed millions of dollars in revenue over the years, much of which has been used to help pay for wildlife management areas and wildlife research. Preservation of natural habitat, both on publicly and privately owned lands, has been facilitated as well.

Another result of the sportsmen's movement has been the development of hunting leases. These have become an important source of revenue for ranch, farm, and forest owners across the United States. Some of the earliest use of hunting leases took place in Texas during the 1930s. Texas ranchers capitalized on offering hunters the right to hunt on their ranch properties in exchange for fees. The arrangement allowed ranchers to gain additional cash income with very little outlay on their own part, while the hunting required no alteration to ranching operations and resulted in no damage to ranch assets (Yarrow 1998).

According to Yarrow (1998), a hunting lease is an agreement between the landowner and sportsmen, granting sportsmen access rights for hunting game animals (and other specified activities) on the landowner's property. The arrangement usually specifies a time period for the sportsmen's access and a rate of compensation for the landowner. Compensation typically is an agreed-upon dollar amount per acre or per hunter, or the landowner may require sportsmen to perform some service for the landowner in exchange for hunting access. Both short- and long-term leases are used. Long-term leases include seasonal leases for specific game animals, annual leases, or multiyear leases. In addition to hunting, sportsmen also may reserve rights for preseason scouting, fishing, and camping. The advantages of long-term leases for landowners include a guaranteed income stream for several years, and a willingness by many sportsmen to make some improvements to the land in exchange for their guaranteed access. Leases also provide landowners with an economically feasible means of preserving open space and wildlife habitat.

Many state fish, game, and wildlife agencies have facilitated hunting leases between sportsmen and landowners by providing educational information with regard to their rights and obligations under such agreements, as well as the financial, environmental, and recreational benefits that can accrue. Private businesses also have sprung up to connect interested sportsmen with willing landowners. Demand for such leases is increasing, especially in areas where game is plentiful. Both bow and rifle hunting are popular, with the latter including muzzle-loaded rifles (local recreational hunter and hunting enthusiast David Hunter, personal communication 2007). As a recreational activity, hunting often is multigenerational, with fathers and sons, brothers, and uncles and nephews belonging to the same clubs. Women also participate in hunting, although to a lesser degree than men (Hunter, personal communication 2007).

Like many Texas ranchers, the McCans entered into a series of hunting leases to generate additional revenue. Claude McCan, Sr., started developing hunting and recreational opportunities on the ranch. During the early 1970s, he hired a wildlife biologist to work on the ranch, a practice that no one else in the vicinity was doing at that point. They also began keeping records of the deer harvest to help with managing the ranch's deer population. Robert McCan has continued these practices, with the result that several generations of local hunters have participated in seasonal hunting in this area. The leases are sold to groups, and a head lease member is the primary point of contact for the ranch. This individual is in charge of the group members' hunting activities. A limit is placed on the number of hunters who can be in the lease group, and most leases are confined to a specified area such as one or two fenced pastures. Fenced pastures on the ranch typically encompass between 600 and 700 acres (McCan, personal communication 2008).

White-tailed deer are the principal game animal on the McFaddin Ranch, as they are in Texas as a whole. The hunting season generally occurs from mid-fall to early winter, with a separate archery season taking place before rifle-hunting season. Demonstrative of the success of habitat

and game management programs, the deer population in Texas increased rapidly during the twentieth century, from just 232,000 in 1938 to three million by the early 1990s. A decade later, that number had further grown to four million (Graves 2004; Jasinski 2008). Credit for the resurgence of deer is due in part to the Kerr Wildlife Management Area, established in 1950. The Texas Parks and Wildlife Department added a research facility here in 1973 that focused on white-tailed deer. Information gained from more than three decades of studies has allowed land managers to improve habitat and educate hunters on important and desirable qualities that can be attained in well-managed populations (Graves 2004).

At the McFaddin Ranch, the ranch's current wildlife biologist, Kirk Feuerbacher, is responsible for liaising with recreational hunters and managing hunting leases; setting quotas for the deer harvest each year; and conducting population counts on deer with an annual aerial count and occasional night-time spotlight counts. Deer kills are brought into a check station on the ranch, with the carcasses weighed and recorded. Jawbones are removed to age the deer, and for male deer, the antlers are scored (McCan, personal communication 2008).

Hunting on the ranch serves a variety of interconnected purposes. It is a necessity to control the deer population and to generate revenue for the ranch. The income stream is used to help pay for improvements on the ranch such as brush control and fencing and water systems to facilitate better grazing (McCan, personal communication 2008). Additionally, Feuerbacher stated that the health of the wildlife on the ranch was an indicator of the health of the grasslands. Land management practices used at the ranch are beneficial both to cattle and the wildlife population. For example, wildlife diversity cannot be maintained without the use of native grasses, and the types of vegetation that are present determine the wildlife that will be found. Native grasses are more drought tolerant and offer greater nutritional density for cattle (Feuerbacher, personal communication 2008). Consequently, the ranch's approach to managing pastures and encouraging native plant diversity enhances both the wildlife population and the quality of cattle.

Water supply management on the ranch reflects a similar duality. Deer often will not drink from a concrete water trough, but instead prefer to take water from natural-looking areas. The McCans have placed overflow areas next to most of the cisterns on their ranches. These generally consist of a small depression dug nearby, with a hose running from the cistern into the depression. When ample wind generation results in the cisterns filling, the excess water flows into the depression. Both deer and cattle use the manmade ponds that result (McCan, personal communication 2008).

In addition to deer, hunters pursue ducks, quail, wild turkeys, doves, and geese, all of which have been designated by the Texas Parks and Wildlife Department as game birds. The season generally takes place in the fall and/or spring, depending on the species. Hunters must obtain separate permits to hunt some types of birds, such as waterfowl and doves (Jasinski 2008). The McFaddin Ranch is located within the Central Flyway, which is used by migratory birds of all types, of which some are game birds and some are not. Neo-tropical migrant birds come through the ranch area, with some staying through the winter and others passing through. Song birds include savannah nesting birds and thrashers. Numerous hawk species are present, including white-tailed, red-tailed, white-shouldered, Cooper's, Harris, and northern harriers. Barn, great horned, and screech owls also populate the ranch. Mourning doves, quail, meadowlarks, and other brush nesting species have become more common because the rotational grazing system has introduced more brush to the landscape. Waterfowl on the ranch include ibises, rosette spoonbills, pelicans, egrets, herons, and rails (Feuerbacher, personal communication 2008).

Feral hogs also are hunted on the McFaddin Ranch. They may be hunted year round as these animals are considered a nuisance species rather than wildlife (Feuerbacher, personal communication 2008). Live traps are set around the ranch to capture the animals as well. Hogs offer some environmental benefits as their rooting habits disturb soil, which can increase nutrients in the soil. They are, however, nest predators and can destroy the nests of any ground-nesting species, such as meadowlarks and quail. They tend to move in groups across the landscape and have been known to destroy large sections of row crops in a relatively short period of time (Feuerbacher, personal communication 2008).

Hogs are not indigenous to the Western Hemisphere. They were brought to Texas by Spanish explorers. Settlers from Mexico and the United States also brought hogs with them. Through the early twentieth century, the common practice was to set hogs loose to graze in open fields rather than penning them. During roundups, not all hogs were recaptured and these became wild. As new settlers arrived with more hogs, the domesticated breeds bred with feral hogs, introducing considerable genetic variety in the population. The population of wild hogs increased steadily through the nineteenth century, as sows were capable of producing five litters in just two years. They proved able to adapt to all climatic conditions and habitat types in Texas (Feuerbacher, personal communication 2008; Taylor n.d.).

Until the mid-twentieth century, a parasite colloquially known as the screwworm helped to control wild hog populations. They also, however, were extremely detrimental to domesticated livestock. During the early 1960s, the worms were eradicated by sterilizing male screwworms; because the females mate only once in a lifetime, it required less than five years to eliminate the parasite's population in the United States (Feuerbacher, personal communication 2008). Vaccinations of domesticated livestock minimized transmissions of other types of disease to wild populations. Due to concerns about commercial swine production, hog cholera was eradicated in 1978. Without the controlling influence of screwworms and other diseases, the number of wild hogs in Texas rapidly increased (Feuerbacher, personal communication 2008; Taylor n.d.). The hogs also have benefitted from widespread conversion of farmland to rangeland, improved land management and livestock grazing techniques, and water conservation that has increased supplies from stock tanks, ponds, and irrigation ditches (Taylor n.d.). Although there is commercial demand for wild hog meat, particularly in parts of Europe, regulation of hunting means that many people only hunt when certain game are in season, even when they also are pursuing wild hogs (Fagan, personal communication 2008; Feuerbacher, personal communication 2008). As a result of all these factors, the wild hog population on the McFaddin Ranch is extensive, as it is in most rural areas of Texas.

OIL AND GAS INDUSTRY AT THE MCFADDIN RANCH

In addition to hunting, oil and gas leases comprise a crucial revenue stream for supporting modern cattle ranching operations. The petroleum industry has exercised a profound influence on the development of the Texas economy since the late nineteenth century. Billions of dollars in revenue have been generated through the discovery of natural gas and oil reserves, and complementary industrial development in petrochemicals and manufacturing has created thousands of jobs throughout the state. Large-scale cattle ranching as it has been practiced since the early twentieth century likely would not have been possible without the income stream that petroleum provides to landowners.

United States Oil Industry

During the late 1850s, a New York lawyer by the name of George Bissell began investigating the potential of "rock oil" as a means of replacing whale oil. Prior to the Civil War, whale oil had been one of the more common sources of lamp fuel, but overhunting was pushing whales to the brink of extinction, making it more and more difficult to harvest them on a commercial scale. After locating financial backing and a likely site for his venture, Bissell leased a section of land in Pennsylvania and hired a driller to sink a well (Knowles 1983:3–5).

The idea of drilling for oil was a novelty at the time. Bissell noted that bits of oil tended to emerge from salt wells during drilling, and thereby concluded that one could simply drill specifically for the oil itself. Given the drilling methods of the day, however, the process was time consuming and expensive. After sinking a bore to nearly 70 feet without signs of oil, Bissell ran out of funding. On borrowed money he continued for a few weeks more. The gamble paid off. On Sunday morning, 27 August 1859, Bissell's driller "Uncle" Billy Smith, discovered oil floating atop the water that had flooded the well. At $20 a barrel, Bissell had started an industry. The Oil Creek area soon became the site of America's first oil boom. Within a short while, the region was dotted with derricks. More productive wells generated up to 4,000 barrels of oil per day. The flood of oil hitting the market depressed the price, and by 1861, oil was selling for no more than $.10 a barrel. This, however, discouraged no one and the crude continued to flow (Knowles 1983:6–7).

Cleveland, Ohio, produce merchant John Davidson Rockefeller took an interest in the concept of oil refining. A barrel of kerosene, he discovered, sold for twice that of a barrel of unprocessed crude. With a burgeoning refinery industry already underway in Cleveland, Rockefeller invested in a refinery of his own. By the end of the Civil War, he had quit the produce business entirely, devoting all his time and attention to the refinery business. Within another five years, he owned and operated two refineries. His newly organized Standard Oil Company of Ohio was ready to supply Europe with all the kerosene it could burn (Knowles 1983:8).

Not content merely to participate in the refining industry, Rockefeller set about controlling it outright. By 1880, he owned 80 percent of the refining capacity in the United States, and 90 percent of existing pipelines. Through any means necessary, Rockefeller acquired smaller companies, eliminating his competition. His Standard Oil Trust, organized in 1882, aimed to wipe out independent producers and monopolize the oil industry entirely. So successful were his tactics that he inspired a rash of monopolies in other industries. The public was outraged by the unscrupulous business practices of the big conglomerates and demanded government intervention. In response, Congress passed the Sherman Anti-Trust Act of 1890. Many years would pass, however, before the act would have an impact on Standard Oil (Knowles 1983:8).

Meanwhile, the petroleum market continued to grow at an impressive rate. By 1869, petroleum derivatives were used to make not only kerosene and fuel oil, but an assortment of lubricants, perfumes, cosmetics, medicines (of dubious effectiveness), and conditioners as well. Of these items, lubricants proved the most valuable during the early career of oil. Paraffin wax, a byproduct of petroleum, also was useful for making Vaseline, chewing gum, jar and barrel sealant, coating wrapping and writing papers, and wood preservative (Knowles 1983:13).

Following Pennsylvania's lead, wildcatters in California began searching for the next big oil strike. Early attempts to locate oil were unsuccessful, but Denton C. Scott and Robert C. McPherson opened a small-producing well by 1876. Located in San Fernando Valley, the well generated a modest 25 barrels a day but, nevertheless, proved oil was present. By 1890, the state was producing no more than 1,000 barrels a day but this was soon to change. In 1892, Lyman Stewart located a field northwest of Los Angeles that produced 1,500 barrels a day. Stewart's discovery sparked an oil rush and soon a wave of prospectors covered the hillsides searching for the next big gusher (Knowles 1983:16).

By 1900, Pennsylvania was no longer the oil capital of America. Fourteen other states were then adding to the nation's oil supply, to which Pennsylvania contributed only 20 percent. Just 20 years previous, Pennsylvania's oil production constituted 99 percent of all oil extracted in the country. By the turn of the twentieth century, California was leading the industry. But the Golden State would soon have a rival in Texas, where one of the greatest oil discoveries in history was about to occur (Knowles 1983:16).

Patillo Higgins of Beaumont, Texas, was the first to suggest drilling into a salt dome he named Spindletop Heights. Higgins located financial backers, and in 1892, began drilling a series of three wells at Spindletop. The primitive cable drilling techniques of the day, however, failed to reach the intended target and Higgins's investors backed out of the project. After seven years of inactivity, Higgins located Austrian mining engineer Anthony F. Lucas. The engineer was both willing to invest in the Spindletop project and to direct drilling efforts. Employing rotary drilling techniques, used to drill water wells since the 1870s, Lucas quickly reached a depth of 575 feet before an eruption of gas wrecked his drilling apparatus. Nevertheless, he recovered a few gallons of crude from the well, enough to attract further financial backing. But Higgins, known for being an eccentric egomaniac, was excluded from further participation (Knowles 1983:19–20).

After surmounting numerous difficulties, including quicksand and solid rock, Lucas's drillers struck oil. The event was unlike anything anyone had ever seen. The stream of oil erupting from the wellhead shot into the air so high that it could be seen for miles. The entire population of Beaumont rushed to the scene to witness the spectacle. When finally harnessed, the well produced 100,000 barrels of oil a day. Within three months, the area was inundated with wildcatters, and the Texas oil industry was born (Knowles 1983:21–22).

The Spindletop discovery put the Texas oil industry on the world stage. Just seven of Spindletop's wells alone were producing more oil than the rest of the world combined. Texas oil flooded the market, decreasing the price of a barrel to $.03, but so much oil flowed from the ground that it remained profitable no matter how low the price went. Operators had unwittingly damaged the oil-bearing formation, however, decreasing gas pressure and rupturing aquifers. By 1904, only 100 of the 1,000 wells were producing as much as 10,000 barrels a day. Millions of barrels of oil were unrecoverable as a result of the reckless rush to extract the resource. Many years passed before hard-learned lessons and government regulation began to prevent such wasteful practices (Knowles 1983:22).

Though short-lived, the Spindletop boom created a number of the country's biggest oil companies. Gulf, Texaco, and Sun Oil Company all got their start at Spindletop. The Texas gushers broke the Standard Oil monopoly and ushered in a new generation of oilmen, all vying to outdo Rockefeller. Like the discovery of gold at Sutter's Mill in 1848, the Spindletop experience

sparked a mad rush to locate oil wherever it lay. People from all walks of life joined the search, hoping to join the ranks of the great industrial tycoons. Much like the gold mining industry, large-scale success was reserved for those with the capital and know-how to control the resource at every stage of development (Knowles 1983:31).

By 1903, California and Texas were the nation's leading oil producers, effectively shifting the industry from the East and Midwest to the South and Southwest. Two years later, the Glen Pool discovery near Tulsa, Oklahoma, turned Indian Territory into the next big oil producing region. By the time Oklahoma achieved statehood in 1907, it was the biggest oil-producing state in the nation. Though Texas remained a major producer, Oklahoma and California would continue to trade the top two rankings throughout the 1910s and 1920s (Knowles 1983:31, 36).

In 1909, federal courts ordered Rockefeller's Standard Oil Trust to divide into 38 separate companies. The decision broke up the most notorious monopoly of all time, but it did little more than make Rockefeller even wealthier than before. The individual companies flourished once removed from the Standard Oil Trust umbrella. Owning stock in every one of the 38 companies, Rockefeller's fortunes skyrocketed. The great business leaders of the day unwittingly discovered that diversification was lucrative. The oil industry was teaching America's great capitalists how to become even greater (Knowles 1983:37).

The oil industry also had a significant impact in the field of geology. With each new discovery, geologists were learning more about the nature of geologic forces. Consequently, universities began offering four-year programs focused on petroleum geology. Researches in the field discovered that oil pools were related to anticlines, making prospecting less unpredictable. In 1913, the Cities Service Company successfully located oil after mapping an anticline near Augusta, Kansas. The field yielded some 50 million barrels of oil, but no oil rush ensued. Because Cities Service Company had accurately mapped the geologic formation, they were able to lease the entire field before anyone knew there was oil in the ground. This marked the first time anyone used the principles of geology effectively to locate oil in the field (Knowles 1983:41, 43).

During World War I, American oil played a significant role in the victory of the Allied forces. The massive oil fields of Kansas and Oklahoma supplied much of the 100,000 barrels of oil that shipped to Europe each day. This was the first mechanized war, and American, British, and French forces relied heavily on American oil to power thousands of ships, trucks, tanks, and planes. The effort drove American oil production to the limit. Not able to deliver enough oil for both domestic and foreign consumption, the federal government mandated "Gasless Sundays" to conserve energy (Knowles 1983:45).

Victory in Europe signaled the beginning of America's major role in world affairs, and also marked its rise to industrial greatness. Much of this expansion was rooted in the availability of cheap oil. Indeed, by 1918, 5.6 million automobiles were plying the ever-growing network of paved roads, and a similar number of farm tractors worked agricultural fields. With most or all of the world's ships converted to oil by the end of World War I, oil was well on its way to dominating the energy market in the United States and abroad. Though new oil and gas discoveries occurred throughout the 1920s, increasing demand was taxing the limits of production (Knowles 1983:45, 47).

By 1919, America already was looking to foreign counties to bridge the gap between supply and demand. Wells in Mexico provided some of the first oil imported into the United States. Thereafter, America looked to the Middle East, but Western European countries, including France, Britain, and Holland, were already drilling there, making competition fierce. American investors also looked to Central and South America, as well as Africa and the Far East. Production in the United States, however, increased considerably by the mid-1920s, eliminating fears about domestic production and, temporarily, slowing the search for foreign oil sources (Knowles 1983:5).

During the early 1930s, Texas once again found itself center stage in the nation's oil industry. The event followed "Dad" Joiner's discovery in the East Texas oil fields. Joiner had tapped into the most important oil field ever discovered in the lower 48 states. The field was over 43 miles in length and ranged from 3 to 12 miles wide. An estimated 5 billion barrels of oil lay within its confines. Nevertheless, the discovery proved too much for the market, and the price of oil plummeted from $1.10 a barrel to $.10, cheaper than a bowl of chili. The discovery could not have come at a worse time. With the Great Depression only just beginning, demand for oil was already greatly diminished. So catastrophic was the effect of East Texas oil that the governor declared martial law and ordered the East Texas fields shut down (Knowles 1983:63; Olien 2008:8).

Oil prices stabilized by the mid-1930s, but demand would not pick up significantly until the country geared-up for war in the early 1940s. When war broke out, domestic oil once again played a key role at home and overseas. Nearly every wartime product relied on petroleum at some point during its production. To oversee oil production, the federal government created the Petroleum Administration for War (PAW). The department was staffed by knowledgeable oilmen from around the country. Oilmen, who normally competed against one another, came together for a common cause (Knowles 1983:75–76).

Among the first suggestions made by PAW was to complete a pipeline from Texas to the East Coast. The line would negate the need to ship oil to the east coast, a practice that put tankers at risk of being torpedoed by German U-boats. The pipelines would also free space on the nation's railroad system, which was already struggling to meet demand. Using their own money, the oilmen surveyed the right-of-way and designed the pipeline. Thousands of workers began construction of the line in August 1942. Within 350 days, the 1,254-mile "Big Inch" pipeline was transporting 300,000 barrels of crude oil east every day. A second, parallel line, known as the "Little Big Inch," opened to the east coast after a mere 225 days of construction. The Little Big Inch transported refined petroleum products such as gasoline, diesel, and fuel oil (Knowles 1983:77–78).

By August 1945, American oil fields had contributed almost 6 billion barrels of oil to the war effort. As in World War I, America's oil reserves played a crucial role in the Allied victory, but the effort taxed American reserves, and postwar demand quickly proved too much for domestic production. Consumption escalated to unprecedented levels between 1945 and 1954. During that 10-year period, almost as much oil was used by Americans as all the oil produced from 1859 to 1945. Much of this demand came from the 58.5 million automobiles that were plying the interstates of America by 1954. Also, oil and natural gas had come to replace coal as the main energy source for powering factories and heating homes. By 1954, 61.1 percent of all energy needs were met with oil and gas (Knowles 1983:89).

During this time, the petrochemical industry, born out of war-time necessity for synthetic goods, came to rely on cheap oil and natural gas. Petrochemical companies, like DuPont and Union Carbide, used oil and natural gas to manufacture all manner of plastics, which were in turn employed in countless postwar commodities. More significantly, they had managed to turn petroleum into potent fertilizers, herbicides, and insecticides, enabling farmers to grow produce on an unprecedented scale (Knowles 1983:99–100). Looking for cheap sources of fuel, these companies relocated from the coal-bearing regions of the East to the oil and gas fields of the South and Southwest. During the late 1940s, for example, DuPont moved its nylon production facilities to Victoria County, Texas, where an abundance of natural gas promised years of uninterrupted production (Gard 1966:607).

As American oil reserves began to decline during the early 1950s, the United States began to import an increasing quantity of oil from foreign markets. This would have great consequences for the future of American energy consumption, as foreign countries came to dominate market prices. The first conflict to arise centered on the Libyan government, which cut off oil shipments to the United States following America's support for Israel in the 1967 war. Subsequently, members of the Organization of Petroleum Exporting Countries (OPEC) managed to wrest control of their own oil resources from international oil companies. Prior to this time, OPEC and the oil companies shared profits from oil on a 50-50 basis. The Libyans pushed OPEC profits to 55 percent, giving them the opportunity to remove the international oil industry. Subsequent conflicts in the Middle East prompted Arab countries to embargo oil shipments to all pro-Israeli governments, including the United States (Knowles 1983:119).

The Arab embargo did little to decrease imports to the United States, but OPEC did raise the price of oil. Because OPEC supplied one-third of all oil imported to the United States, the price increase had a significant impact. Gas prices shot up $.10 to $.15 per gallon. The public was outraged, and immediately placed the blame on domestic oil companies, despite the fact that 75 percent of increased revenues occurred in foreign countries (Knowles 1983:119).

In the face of rising energy costs, domestic drilling increased. The Emergency Petroleum Allocation Act loosened the ceiling prices for certain grades of oil, motivating operators to renew exploration efforts and drilling. Between 1973 and 1976, the number of rigs in the field increased substantially, but the Energy Policy and Conservation Act of 1976 temporarily hindered further drilling. The following year, the federal government raised price caps once again, spurring another flurry of drilling activity. Prices rose again the next year following the fall of the Iranian government. With oil prices soaring by nearly two-thirds, prospecting and drilling in the United States increased at record levels (Olien 2008:14). Operators drilled a total of 48,513 wells in 1978 alone. In 1980, the number climbed to 62,462 wells, the most ever drilled in one year. After newly elected President Ronald Reagan announced that he would eliminate all price controls, drilling continued at an even greater rate. By the end of 1981, operators had drilled a staggering 77,500 wells (Knowles 1983:129).

As a result of the drilling frenzy, domestic production climbed for the first time since 1974. Oil imports dropped from 8.2 million barrels daily in 1978 to 4.9 million barrels daily in 1982. By this time, an oil surplus was developing and prices began to fall. Total domestic oil reserves, however, were clearly on the decline, and had been since the early 1950s. Geologists estimated that by 1983, operators had exhausted 39 percent of the nation's oil reserves. Another 24 percent was tied up in reserves, and the remaining 37 percent was yet undiscovered. Maintaining domestic production would require new technologies for locating undiscovered fields, and new methods for extracting oil and gas from old sources (Knowles 1983:131, 139).

Technologies developed during the 1970s and 1980s made oil prospecting considerably less risky than it had been in the days of the great Texas oil rushes. Computer-aided seismographs, for example, enabled geologists to peer into the earth's crust without digging a single hole. By sending artificially created shockwaves into the earth, geologists could determine the density of underlying strata then create three-dimensional maps based on the results. Such mapping techniques created accurate pictures of the earth's crust, and helped identify oil-bearing strata. These methods would prove especially useful for mapping offshore oil fields (Knowles 1983:141).

Increasingly, oil exploration began to move offshore as the 1970s and 1980s progressed. By 1980, deep water drilling reached a depth of 6,600 feet, with 13,000-foot depths considered feasible. Even in the Arctic Ocean, where the sea is frozen for much of the year, operators can successfully sink wells and retrieve oil and gas. With an estimated 7 to 32 billion barrels of oil and 30 to 97 trillion cubic feet of natural gas lying in wait off the coast of Alaska, offshore drilling in this remote northern region will likely keep the American oil industry in business well into the twenty-first century (Knowles 1983:147).

Since the 1970s, domestic petroleum production has shifted more toward natural gas than crude oil. Between 1990 and 2000, natural gas consumption in the United States grew from 9.3 trillion cubic feet to 11 trillion cubic feet. The National Petroleum Council estimates natural gas consumption will increase to 26 trillion cubic feet by 2020. Much of this shift toward gas comes from a general desire to move away from coal and fuel oil, which generate higher levels of pollutants. To continue production of this declining resource, operators have had to look deeper and deeper into the earth to find new reserves (National Energy Technology Laboratory 2003).

Wells classified as "deep" extend below 15,000 feet. By 2003, roughly 2,575 deep wells were in operation throughout the United States. Drilling such wells is extremely costly, but the rewards typically justify the expense. Deep wells in Wyoming's Wind River Basin, for example, produce between 6 and 34 billion cubic feet of natural gas. As of 2003, only 0.5 percent of all gas wells in the country were deep wells, but they accounted for six percent of total production. The Potential Gas Committee estimates that about 29 percent of the country's natural gas potential is located in deep gas reserves. More than 50 percent of this resource is located in on- and offshore areas in the Gulf of Mexico (National Energy Technology Laboratory 2003).

Despite domestic reserves of oil and gas, they exist in quantities far too small to support current consumption levels. To remain viable, domestic oil companies have largely moved abroad to continue their drilling and refining activities in foreign countries. This trend began during the late 1980s and early 1990s. By 1992, foreign oil imports had reached their highest levels since 1978, and domestic production had declined to its lowest level since 1961. During that same year, only half the number of drilling rigs was in the field as in 1982. Refineries too were downsizing, as Amoco, Mobil, and Unico laid-off thousands of workers. Decreasing domestic reserves and stringent environmental regulations motivated refiners to take their operations to foreign countries. Much like the auto and steel industries, oil production and refining was quickly moving out of the country (Wald 1992).

Presently, with the United States in the midst of the worst energy crisis since the 1970s, domestic production has once again increased, but remaining reserves cannot rid the country of its dependence on foreign oil. In July 2008, President George W. Bush lifted an executive drilling ban on offshore oil. In effect since 1990, the ban prevented oil companies from exploiting new

offshore oil and gas resources. Geologists estimate that offshore reserves might contain as much as 18 billion barrels of oil and 76 trillion cubic feet of natural gas. Many experts argue, however, that these reserves are too insignificant to solve the energy crisis and that the prolonged period required to reach reserves and begin production will do little to alleviate the current situation. Domestic production of oil and gas has only a limited lifespan remaining (Myers and Hulse 2008).

Texas Oil Industry

The first recorded sighting of Texas oil dates to July 1543, when the de Soto expedition survivor Luis de Moscoso noted the presence of oil atop the water near Sabine Pass and High Island. In need of caulk for their vessels, the unexpected find proved especially useful to the group. This occasion marked the first of many such sightings in the following years. Indeed, as Spanish and American pioneers moved into the region, they often used oil seeps not only to lubricate wagon axels but to create medicines that, no doubt, created more problems than they cured. Not until the nineteenth century, however, did anyone attempt to exploit the resource on a commercial scale. Demand for kerosene and assorted petroleum products motivated speculators to seek out oil and asphalt following the Civil War (Olien 2002:1).

Texas wildcatters sank as many as 100 wells between 1870 and 1890. Most or all of these test wells were drilled in East Texas, particularly around Oil Springs. None of these efforts, however, located quality oil in sufficient quantities. Texas oil located during this period often had high sulfur content with low paraffin, making it useless for kerosene production. This low-grade resource, however, did provide sufficient mechanical lubrication, as well as fuel for heating boilers. For this reason, Oil Springs oil generated enough local interest to justify construction of a 14.5-mile pipeline between the oil fields and the railhead at Nacogdoches. A refinery near Bayou Visitador distilled the Oil Springs crude into various lubricants and low-grade fuels. Having low commercial value, these products remained in the area for local consumption (Olien 2002:3).

By 1900, Texans had located oil and gas deposits throughout the state. Many of these discoveries occurred accidentally, as ranchers drilled holes searching for water. In a largely arid region, where cattle and agriculture comprised the largest source of income, oil and gas deposits often disappointed ranch and farm owners, who were far more concerned about hydrating their cattle and crops than producing gas and oil. So insignificant was oil that statisticians did not include Texas among oil producing states until 1889, and these figures came from a total of two wells located in Bexar County. Owned by rancher George Dullnig, the two wells generated no more than 48 barrels within an entire year. Like many ranchers, Dullnig had been drilling for water (Olien 2002:4).

A similar event transpired near Corsicana, Texas, in 1894. As part of a measure to lure industries to their town, Corsicana leaders attempted to increase their water supply, but the Corsicana Water Development Company struck oil while sinking a water-well. A couple of local business men had the oil tested and were subsequently pleased to learn that the material merited further investigation. After organizing the Corsicana Oil Development Company, businessmen Ralph Beaton, H. G. Damon, and Pennsylvania oil speculator John Davidson hired Pennsylvania wildcatter John H. Galey to drill a series of five wells near the water development company's water well. Results of the drilling produced little more than a few dozen barrels of oil per day.

Discouraged, the Pennsylvania men sold their interests in the company and departed. The Corsicana businessmen, however, continued with the venture, organizing the Southern Oil Company in 1897. Before the year was over, the fledgling company had 43 productive wells in operation, producing nearly 66,000 barrels by year's end (Olien 2002:4–5).

Though modest by the standards of big oil producing states, like Pennsylvania and Ohio, the Corsicana fields generated more oil than the Southern Oil Company could sell. With no means of storing, shipping, or refining large quantities of oil, Corsicana's crude simply flowed atop the ground for lack of immediate use. Help arrived in 1899, when Standard Oil of Pennsylvania took over production. The new owners installed pipelines and tank batteries, and built a 1,000-barrels-of-oil-per-day (bopd) refinery. Through aggressive marketing, promoters of Corsicana oil encouraged local residents and businesses to switch from coal and wood to natural gas, and civic leaders agreed to purchase oil for use at reducing dust on city streets (Olien 2002:6).

By 1900, Corsicana oil production had peaked at 829,559 barrels for the year. The Corsicana field began to decline, but numerous smaller fields surrounding the initial discovery site kept the industry alive. Corsicana's oil boom was small by later standards, producing less than 2 percent of the nation's oil in 1900, but the fields generated good financial returns for dozens of speculators. The experience introduced numerous small capitalists to the oil business and proved to everyone that money could be made in the Texas oil fields. Consequently, some of the biggest names in the oil industry took notice of East Texas, thereby attracting more capital and expertise to the region. In this regard, Corsicana not only initiated large-scale oil production in Texas, it set the stage for the ensuing oil boom that would forever change the Texas landscape (Olien 2002:8–9).

The Corsicana experience also became a proving ground for new drilling techniques. In 1895, South Dakota water-well drillers M. C. and C. E. Baker introduced hydraulic rotary drilling to Corsicana. Prior to the arrival of the Bakers, Corsicana oil prospectors relied on cable drilling. This process required operators to drop a heavy bit repeatedly down the bore in an effort to break a hole through the rock (Olien 2002:18). Hydraulic rotary drilling involved boring a hole through the rock with a continuously rotating bit. Simultaneously, the operator injected a steady stream of watery mud into the bore. The mud slurry provided lubricant for the drill bit and removed rock fragments from the hole as it flowed toward the surface. Considerably more efficient than cable drilling, the hydraulic rotary method reduced drilling time from a few weeks to a few days. Elated by the results, the Bakers teamed up the American Well and Prospecting Company to manufacture rotary drilling equipment. The event marked the beginning of the Texas oil tool manufacturing industry (Olien 2002:9).

While new drilling methods were increasing drilling efficiency, unregulated and random drilling in the Corsicana fields was hindering overall production. Failing to properly case well bores, or simply salvaging casing from dry wells, prospectors perforated the aquifer, allowing saltwater to infiltrate oil-bearing strata. Over time, producing wells became contaminated with saltwater, which progressively decreased the ratio of oil to water, making production less profitable. Consequently, Corsicana oil men pushed for state regulations to prevent such careless practices. In February 1899, House Bill No. 542 became the first measure in the State of Texas to address oil production. The bill stipulated that oil wells had to be thoroughly cased when in use and properly plugged when abandoned. Producers also were restricted from allowing gas to flow unchecked for more than 10 days and prohibited from flaring gas in the field. Although the bill became law the following month, the state did not enforce it, leaving oil men to file suit when necessary (Olien 2002:9).

These events at Corsicana would provide valuable experience for oil men working in the fields around Beaumont, Texas, where one of the greatest oil discoveries in the country's history took place. Speculators had been working the fields around Beaumont since 1892 with no success (Olien 2002:26). However, on January 10, 1901, Anthony F. Lucas, working for the Gladys City Oil, Gas, and Manufacturing Company, struck oil in the Spindletop oilfield at a depth of 1,160 feet. Upon reaching oil, a gusher exploded from the wellhead, sending a stream of oil into the air that could be seen for miles. So great was the stream that in took nine days to control the flow. When finally capped, the gusher had created a 100-acre lake, containing almost 700,000 barrels of oil (Gard 1966:12–13). The well produced more than 75,000 barrels of oil a day, and ushered in the first oil boom in Texas state history. When the field peaked in 1902, it had produced approximately 17.5 million barrels of oil (Olien 2002:41).

Unprecedented in the history of Texas oil exploration, the Spindletop discovery set off a mad dash to locate more wells. Land sales around the great oil field skyrocketed from a mere $8 to $10 an acre to between $200,000 and $900,000 (Peter and Prior 2008:97). In the midst of this flurry, some of the country's largest oil companies took root. Among these was the Gulf Oil Company. Organized in 1902 as the J. M. Guffey Petroleum Company, Gulf Oil (renamed in 1907) opened a refinery at Spindletop for the purpose of making kerosene. The Texas Oil Company, later renamed Texaco, built pipelines from the fields to regional refineries, as did the Sin Pipe Line Company, later named Sun Oil Company (Olien 2002:48).

A defining moment in the history of oil, Spindletop marked the beginning of large-scale oil production like the world had never seen. The flood of oil entering the market from Spindletop dwarfed that generated by all the world's producers. Not even Pennsylvania could match the volume of Spindletop, whose initial well produced more oil than all the fields in the Keystone State. Overnight, Texas had made America the largest oil producer on earth. Production totals for the state in 1904 show that Texas was producing more than 21 million barrels of oil every day from 650 wells. With so much oil in production, the Rockefeller monopoly crumbled (Peter and Prior 2008:97).

Hoping to locate the next big gusher, prospectors immediately set about locating more fields. No other discoveries in the immediate future, however, came close to matching the volume of oil produced at Spindletop. A few economically significant discoveries did occur at Sour Lake (1902), Batson-Old (1903), Humble (1905), and Goose Creek (1908), and a few minor producing wells were located on the Montevidor Ranch at Hoskins Mound. Overall, however, oil production on the Gulf Coast began to slump around 1906. Gas production, however, increased. The growing use of natural gas would soon lead to development of public utility companies. In 1909, the Lone Star Gas Company of Petrolia was among the first to create a public utility market for Texas gas. The gas company sank wells in the Petrolia field in Clay County and piped it to Petrolia and Wichita Falls. By 1910, they had extended the lines to the Dallas-Fort Worth area. At the end of World War I, the company had 59 wells in production, supplying gas to 14,719 homes and 133 industries (Gard 1966:16).

Oil production along the coast declined in 1906, but prospecting and oil production continued unabated elsewhere in the state. Minor wells produced at Jacksboro, in Jack County, and at Goose Creek, Markham, and Laredo. In 1910, prospectors located oil in several counties, including Marion, Brown, Coleman, Shackleford, Starr, and Wichita, and about this time, companies organized to build pipelines across the state. Among these were the Gulf Pipe Line Company, which completed an eight-inch pipeline between Oklahoma and Sour Lake in 1907,

and the Texas Pipe Line Company, which completed an eight-inch pipeline between Oklahoma and the Gulf Coast in 1908 (Gard 1966:16).

Not until January 1911 did anyone locate another oil field of significant value. In that year, rancher W. T. Waggoner reluctantly leased his land to the Producers Oil Company. Located in Electra, Texas, Waggoner's ranch had produced oil a few years previous when he sank a number of water wells. The prospectors made four failed attempts to reach oil, but found success in the fifth well at 1,852 feet. The well was a modest producer at 50 barrels a day but the oil men knew that more oil lay in wait. Despite efforts to keep the discovery a secret, word leaked out. In early April, a prospector struck oil on a farm just north of Electra. Oil shot into the sky some 100 feet, creating a spectacle that attracted much attention. Within a short while, the oil men managed to harness the gusher and divert it into earthen storage tanks (Gard 1966:16).

Like the Spindletop discovery 10 years previous, Electra attracted prospectors from all parts of Texas, Oklahoma, and Louisiana. A small town, Electra had no means of accommodating the hordes of oil seekers that poured into the community. Overnight, the surrounding landscape was dotted with tents and makeshift dwellings. Those who acquired leases did not regret the journey. In 1911, the Electra field produced 899,579 barrels of oil. The following year, producers extracted 4,227,104 barrels and 8,131,124 after that. It peaked in 1913 at 8,288,000 barrels, less than half that of the Spindletop peak. Nevertheless, the Electra discovery proved a long-term producer, generating 3,225,023 barrels in 1937, and over one million in 1950. The boom also brought a number of oil-related industries to the little town, including a refinery and five gasoline plants, and the Waggoners, who initially hesitated to lease their land to oil speculators, accumulated a fortune from the 8,500 wells that dotted the field (Gard 1966:17).

A number of lesser oil discoveries soon followed the Electra boom: Iowa Park, near Wichita Falls, Alta Vista, Avis, Brenham, Damon Mound, and Strawn, Texas. None of these discoveries was significant, but a well near Breckenridge did manage to produce 200 barrels of oil per day, prompting a small oil rush (Gard 1966:17). However, in 1917, another small boom developed around a discovery near Ranger, Texas. While drilling at the behest of a Ranger businessman, the Texas Pacific Coal Company hit oil at a depth of 3,431 feet. The ensuing gusher produced roughly 1,700 barrels of oil a day. The discovery created a small land rush, and the population of Ranger leaped from 1,000 to 6,000 people in six months, and to 30,000 within another year. Land prices soared to $8,000 per acre (Gard 1966:19).

Prospecting companies entered Ranger from all parts of the state and within a short while, the surrounding countryside was dotted with derricks and oil men. With limited accommodations available, some prospectors found themselves renting barber chairs just to get a night's sleep. Resources also were limited, forcing some people to drink water from their radiators just to survive. Whiskey, however, was plentiful, despite the newly enacted Eighteenth Amendment, which forbade the sale and consumption of alcohol. Nevertheless, the town soon found itself infested with drunks, gamblers, and prostitutes. Crime became uncontrollable, as murders happened on an almost hourly basis. Not to be left out of the excitement, the neighboring village of Hogtown (later changed to Desdemona), also entered the prospecting business. The locally organized Hog Creek Oil Company met with success in September 1918, when its hired drilling company struck gas. The well immediately caught fire, lighting the night sky up for some distance. Once capped, the well began producing oil at 2,000 barrels a day. This was the first of many wells brought in at Hogtown, and the once quiet community began to resemble its lawless neighbor, Ranger. Unfortunately, much of the Hogtown (Desdemona) field was lost to wasteful practices (Gard 1966:19).

Approximately 35 miles northwest of Ranger, the community of Breckenridge also had luck with locating oil. Attempts to locate a producing oil field had been ongoing since 1911, but failed to yield a single paying well. Luck changed in February 1918, when prospectors brought in a high-capacity well. Within weeks, the town was surrounded by as many as 200 derricks. Within five years, the number of wells had increased to 2,000. Production peaked in 1921 at 31,037,710 barrels of oil. The field quickly declined soon after (Gard 1966:20).

One boom that was reminiscent of western mining booms occurred north of Breckenridge at the Burkburnett field. Like prospectors in Breckenridge, those in the Burkburnett field had made many unsuccessful attempts at locating oil prior to completing their first paying well. The first such well came in at 1,734 feet in July 1918. The gusher generated 2,200 barrels a day, motivating prospectors to sink more holes. Within a few weeks, dozens of derricks were in place. Like most boom towns, speculation ran rampant. Town lots sold for $1,000, and homeowners attempted to sell or lease their properties at exorbitant rates, while, like Ranger, the town filled with saloons and bordellos. The boom proved short-lived, and just as quickly as it arose, the town declined (Gard 1966:20).

In West Texas, the Permian Basin proved a significant discovery following explorations in the early 1920s. Michael L. Benedum struck oil in 1924 while prospecting in the Big Lake oilfield. Benedum's discovery was followed by oil strikes in the McCamey, East Howard-Iatan, Yates, Hendrick, Kermit, North Ward-Estes, and Fuhrman-Mascho fields. Located in a sparsely populated region of the state, these discoveries attracted large numbers of people to the area, leading to substantial growth in the communities of Big Spring, San Angelo, Midland, and Odessa, Texas. The towns of Upton, Crane, Howard, and Winkler developed as a direct result of the oil fields. West Texas oil fields, however, began production during a decline in oil prices, which hindered development of the region's oil resources. By 1929, the states of California and Oklahoma were contributing to the nation's oil supply, further driving prices downward. Further development of West Texas oil was slowed by a lack of pipelines to transport oil to Gulf Coast refineries (Olien 2008:6).

In Southwest Texas, oil production began in 1907 with the discoveries of the Piedras Pintas and Mission fields in Duval and Bexar counties. The largest discovery in the region occurred in the Somerset field in 1913. Concurrently, prospectors located gas in the Refugio field. Other Southwest fields discovered during the 1920s include the Aviator and Mirando City fields near Laredo. Oliver W. Killam developed a mid-sized refinery and a pipeline to transport oil from the fields to the nearest railhead. These discoveries were followed by the oil-producing Government Wells field, and the gas-producing Agua Dulce, Kohler, and Three Rivers fields, all in Duval County (Olien 2008:5).

Natural gas gained importance in Southwest Texas following significant discoveries at Laredo in 1911, White Point in 1914, and Kingsville during the early 1920s. Following the Laredo discovery in 1911, a public utility company began delivering natural gas to local residents. The city of San Antonio received natural gas in 1922. Another significant gas discovery occurred in the Carolina field in Webb County when prospectors opened a well that produced 41,000,000 cubic feet of gas per day. With over 4 billion cubic feet of gas per day, Southwest Texas had become a significant gas region by the mid-1920s. A network of pipelines crossed the landscape, delivering gas to Houston, Austin, the lower Rio Grande Valley, New Braunfels, Seguin, San Marcos, and the Gulf Coast. The gas pipeline system was expanded during the 1950s and 1960s, making Southwest Texas an important source of natural gas energy for the state (Olien 2008:5).

Central Texas proved less successful in the great search for oil. In 1913, the Austin Chalk formation produced a number of notable wells, particularly in Williamson County. This was followed by a significant discovery in the Edwards formation in 1922. Two years later, an oil company laid a pipeline to connect this field to a refinery in Beaumont. During the late 1920s, the Lytton Springs field, located approximately 28 miles south of Austin, began producing oil. The most promising Central Texas oil deposit was located at the Salt Flat field in 1928. This, too, was located in the Edwards formation (Olien 2008:6).

In the Panhandle of Texas, geologist Charles N. Gould located a major gas field while performing a water-resource survey. Though Gould conducted his survey work in 1904, the field was not tapped until 1918. During that year, the Amarillo Oil Company's Masterson No. 1 well reached an oil deposit that immediately produced 10 million cubic feet of gas per day, and the Masterson No. 4 produced an amazing 107 million cubic feet of gas per day (Olien 2008:4). Additional wells were sunk and the field became the largest producing gas field in the world. To transport the gas, oil companies laid a pipeline from the field to Amarillo (Gard 1966:20). By 1994, the Texas Panhandle had produced approximately 8 trillion cubic feet of gas (Olien 2008:4).

At Mexia, wells had been producing gas since 1912. By 1915, the Mexia field was producing more than 2.33 million cubic feet of gas for the year. In addition to gas production, prospectors located oil on the L. W. Rogers farm in the Mexia field in 1920. The well produced a modest 50 barrels of oil per day but was enough to set off another oil rush. As prospectors crowded into the new field, production continued to climb at a surprising rate. One gusher after another blackened the landscape, pushing the level of annual production to 5.5 million barrels in 1921 and peaked at 35.12 million barrels in 1922. During the brief Mexia boom, the population climbed from 4,000 residents to 40,000. Crime became so prevalent in Mexia that Governor Pat M. Neff declared martial law to restore order in 1922 (Gard 1966:21).

During the Mexia boom, a number of smaller discoveries occurred around the state. In 1921, test wells at Pierce Junction, Orange, Archer County, and Mirando, Texas, produced limited amounts of oil. More significant wells were located in the coastal communities of Big Creek, Stratton Ridge, and High Island. Two years later, the Corsicana area proved fruitful once again following an oil discovery in the Powell field in 1923. Located 8 miles east of Corsicana, the Powell field reached a peak of 354,893 barrels of oil in one day (Gard 1966:21).

By the mid-1920s, the Panhandle had become a major oil producing region in addition to gas. Much of the oil came from Borger and parts of Hutchinson and Carson counties. The counties of Gray, Potter, Moore, and Wheeler also produced oil in smaller amounts. By 1927, the Panhandle area had peaked at 39,431,789 barrels of oil. The largest portion of Panhandle crude originated in Hutchinson County. The area declined for several years then rebounded when prospectors located oil in Gray County. The county's production for 1930 was 32,274,822 barrels of oil. Success in the Panhandle attracted seven oil companies to the area by 1926. They built storage facilities and a network of pipelines that connected the Panhandle to Oklahoma and the Gulf Coast. Consequently, oil activity in the area attracted numerous industries, creating a significant economic boom in the Panhandle region. Among the various industries directly related to the region's oil boom were the American Refining Company (later renamed the Philips Panhandle Refinery), and the Western Carbon Company of Carson County (Olien 2008:4).

The Panhandle boom had a significant impact on Amarillo, which grew from a population of 15,494 in 1920 to 43,142 by 1930. Much of this growth, however, occurred in outlying areas, such as Borger and Panhandle. Borger itself developed as a direct result of the Panhandle boom. By 1926, the new community had a population of between 10,000 and 20,000. Like most boom towns, Borger was a haven for moonshiners, gamblers, and prostitutes. The Texas Rangers were eventually called in to keep peace (Olien 2008:4).

Such scenes of lawlessness were common among the boom towns surrounding Texas oil patches. People of all walks of life flocked to oil strikes, hoping to make their fortune, much as the gold-seeking Forty-niners of the previous century had done in California. The oil fields especially were attractive to sharecroppers, who typically lived an almost itinerant lifestyle. Entire families were often seen pulling into boomtowns, with all their worldly possessions strapped to the sides of their Ford automobiles. They took up residence in whatever structure they could build or rent. Under these circumstances, town development resembled coal patches in the East or mining boom towns of the far West. Buildings consisted of a strange mixture of tents, wooden shacks, shotgun houses, and an occasional masonry structure. Always, there was the veritable forest of wooden oil derricks looming over the town, if not directly in the middle of it (Olien 2008:4–5).

By the mid-1920s, reaching the latest boom town was as easy as loading the car and driving to it. In contrast to the booms of the early 1900s, access to most parts of the country, including Texas, was possible via improved dirt and paved roads. In 1926, over 1 million automobiles were traveling the roads of Texas. Reflecting a nationwide trend, automobile production climbed at a rapid rate, generating an ever larger market for refined oil. Simultaneously, oil production for the year 1926 reached 166,916,000 barrels of oil or more than six times the amount produced in 1916 (Gard 1966:23). With each new discovery came greater faith in the dependability of oil as an energy source, and an ever growing dependency on the automobile.

By the late 1920s, years of exploration and production had led to a glut in the oil market. Despite a decrease in the price of oil, prospecting continued unabated. In the first three months of 1929 alone, Texas oil producers removed 69,541,834 barrels of oil from the ground. A mere 10 companies, including oil giants Gulf, Humble, Standard Oil of Indiana, Texas Company (later Texaco), and Shell, produced over half this amount. Many independent operators remained in operation but the numbers were decreasing (Olien 2008:6).

The glut only worsened following new discoveries in the East Texas oil fields. In 1929, the Pure Oil Corporation conducted tests in the Van field but concluded that they could not profitably remove oil from the formation. The next year, Columbus M. “Dad” Joiner and A. D. “Doc” Lloyd proved the Pure Oil Company wrong by sinking the productive Daisy Bradford No. 3 well into the Van field in Rusk County. When mapped, the field was initially determined to extend 43 miles in length by about .5 mile in width. New discoveries outside the mapped zone, however, indicated that the oil-bearing formation was considerably larger than originally thought. The field was so large it included the counties of Upshur, Gregg, Rusk, Smith, and Cherokee. By June 1931, operators had drilled over 1,100 wells, bringing daily production from the Van field to nearly 304,000 barrels. The effect sent oil prices tumbling. In East Texas, oil sold for $.22 per barrel, and high gravity oil in Oklahoma, Kansas, and North Texas was down to $.27 per barrel. With prices so low, exploration in other parts of Texas, particularly in West and Southwest Texas, came to a near standstill (Olien 2008:7).

Refinery construction near the Van field boomed following the 1929 discovery. The largest of the companies conducting business in the area were the Taylor, East Texas, Central, and Sinclair refining companies. Refineries worked around the clock making gasoline and kerosene from the tens of millions of barrels of oil exiting the ground every year. So great was production that "hot" oil, or oil that was produced in excess of Railroad Commission limits, sold for as low as $.03 a barrel in 1933 (Olien 2008:7).

All peaceful attempts by the Railroad Commission to slow production in East Texas failed. Finally, Governor Ross Sterling intervened by declaring martial law and shutting down the fields. He sent the Texas National Guard to the area to enforce the shut-down. The Railroad Commission set proration rates, then allowed the fields to resume operations. Subsequently, the governor's actions were ruled unconstitutional by the state Supreme Court. Nevertheless, the commission managed to slow production significantly with the help of the Texas Rangers. Hot oil shipments to neighboring states, however, remained a problem. The Railroad Commission received help in 1933, following implementation of Section 9e of the National Industrial Recovery Act. The law authorized the federal government to intervene in interstate shipments of oil that exceeded state-mandated limits (Olien 2008:8).

By the mid-1930s, new instruments enabled the Railroad Commission to monitor output at the wellhead. By measuring pressure in the wells, the commission could better enforce production limits. Conservation was further aided by the expansion of big-refiner ownership within the fields. As large-scale refining companies acquired larger shares of oil-bearing formations, they edged out smaller producers, decreasing the number of wells in the field. By 1937, only six significant independent refiners remained in the East Texas fields (Olien 2008:8).

With a decreasing number of producers in the field, and increasing regulation over total output, prices in the oil market began to stabilize by the mid-1930s. Production patterns in East Texas also stabilized, leading to better conservation of remaining resources. As the chaotic nature of oil and gas discoveries declined, more systematic approaches to exploration ensued. Producers also began more fully to exploit oil resources, reinvestigating older fields. The Kermit and South Cowden fields, for example, were more fully developed by laying additional pipe lines to outlying refineries. By 1939, the East Texas fields included a total of 11 refineries, two carbon black plants, and 13 natural gasoline plants. Similarly, oil discoveries made in the Panhandle region during the 1920s were also reinvestigated and better developed. By 1938, oil industries in the Panhandle included eight refineries, 31 carbon black plants, and 42 natural gasoline plants (Olien 2008:8).

Oil and gas discoveries continued elsewhere in Texas during the mid-to-late 1930s. In Southwest Texas, the Greta, Sam Fordyce, Loma Novia, Lopez, Placedo, Plymouth, Flour Bluff, Benavides, and Premont fields all proved significant finds, adding to regional output. By the end of the 1930s, Southwest Texas had a total of 26 refineries in operation. The Humble Oil and Refining Company refinery at Ingleside was the largest of these concerns. The region also continued to produce large quantities of natural gas, which contributed to a growing petrochemical industry along the Gulf Coast (Olien 2008:8).

With the outbreak of World War II, oil shipments to Europe diminished rapidly. To prevent a repeat of the early 1930s oil glut, the Railroad Commission cut production by 20 percent and imposed shut-down days. Production was curtailed to less than 60 percent of the state's potential output in 1942. These measures remained in effect throughout the war. Production did pick up, however, following completion of the Big Inch and Little Big Inch pipelines, which enabled Texas to ship oil to East Coast markets (Olien 2008:9).

Despite production limits imposed by the war, exploration continued between 1939 and 1946. During this time, prospectors located a total of 77 new fields throughout Texas. Although small by the standards of prewar discoveries, these new wells contributed to the state's overall oil reserves. The largest of these discoveries occurred in the Hawkins Woodburn field in East Texas. In West Texas, the Wasson, McElroy, Fullerton, Mabee, Sandhills-McKnight, Anton-Irish, TXL Devonian, Midland Farms, Fullerton San Andres, Block 31, and Levelland, among others, all contributed to West Texas oil production. War-time natural gas discoveries included the Carthage, and Opelika fields of East Texas and the Headlee and Brown-Bassett fields in the Permian Basin of West Texas. Only the Panhandle and North and Central Texas remained stagnant in terms of war-time discoveries (Olien 2008:9).

The building boom following the war generated great demand for petroleum product. By 1947, demand was high enough that the Railroad Commission ceased enforcement of shut-down days. In addition, the federal government ended all regulation of oil and gas production, freeing oil producers to drill at will. Even as production limits loosened, skyrocketing postwar demand sent the price of oil upward. The price of West Texas crude jumped from a fixed war-time price of $.92 per barrel to $1.27 a barrel in July 1946. By December 1947, the same oil was selling for $2.32 a barrel. Following coal miner strikes in 1946, unprecedented demand for natural gas was created for this underutilized resource. Despite peak production, however, the United States oil industry could not keep up with demand. In 1948, the United States began importing oil from foreign sources. Between 1948 and 1958, net imports increased 24 percent. With an increase of foreign oil entering the market, motivation to seek out new oil fields diminished, especially in Southwest Texas (Olien 2008:9).

In the years immediately following World War II, pipeline construction continued at a furious pace. By 1950, the state of Texas had a network of natural gas pipelines extending 15,010 miles, and a total of 26,409 miles of oil pipelines. The pipeline network motivated developers in Southwest Texas to develop known gas fields further, particularly in Hidalgo and Zapata counties, and in the Permian Basin. With a network of pipelines reaching 46 states, Texas gas shipments doubled during the early 1950s (Olien 2008:10).

Oil and gas discoveries continued through the late 1940s and 1950s. In the Permian Basin of West Texas, prospectors sank wells ever deeper in search of reserves. New and old fields yielded high-grade crude at depths below the Permian formations. These discoveries prompted prospectors to reinvestigate some of the unsuccessful fields of the 1920s and 1930s. As a result, the number of wells drilled doubled between 1947 and 1948, then doubled again the next year. Independent and major oil companies set up business in Midland, Texas. Among those investing in the Permian Basin of West Texas were George H. W. Bush and John and Hugh Liedtke. During that time, new discoveries in the Midland and Delaware basins occurred every year between 1946 and 1950. Among the larger fields located were the Kelly-Snyder and Diamond M, TXL, Gogell, and Prentice and Salt Creek. These fields helped make the Permian Basin the largest oil producing area in the United States by 1950 (Olien 2008:10).

The flurry of exploration that followed the end of the war quickly exhausted the supply of unknown oil and gas reserves within the state of Texas. Oil fields located during the late 1940s and early 1950s significantly contributed to the overall known reserve, which peaked at 15,314,964,000 barrels of oil in 1952. Additional discoveries, including the Neches field (1953) and the West Hastings field (1958), contributed to an otherwise declining resource. By the mid-1950s, no major onshore oil fields remained undiscovered in Texas. With the exception of a few

annual increases during the 1950s, Texas oil production clearly declined throughout the decade. The trend continued through the 1960s, sliding from 14,859,674 barrels of oil in 1960 to 13,063,182,000 barrels in 1970 (Olien 2008:10).

As oil declined, the significance of natural gas increased. Natural gas became more important as a domestic fuel and as a feedstock for the growing petrochemical industry. To prevent unnecessary waste of this diminishing resource, in 1947 the Railroad Commission threatened to shut down operators who flared significant quantities of casinghead gas. In Southwest Texas, the commission enforced conservation practices in the Seeligson field. This was the first of numerous battles aimed at eliminating waste in the oil and gas industry. Subsequently, 82 projects designed to utilize casinghead gas were launched by various oil and gas concerns operating independently and cooperatively. More were soon to follow (Olien 2008:10).

The trend toward oil importation continued throughout the 1950s. Cheaper than domestic oil, foreign oil created a decrease in demand for Texas oil beginning in 1957. Consequently, the Railroad Commission cut production in half. The Texas Independent Producers and Royalty Owners Association, among others, attempted to restrict oil importation, but Washington refused to intervene. Thereafter, importation of petroleum increased and the Railroad Commission responded by reducing operating days to eight per month. The effect forced many refining companies to sell out or fold entirely. During the 1960s, a number of large firms, including the Honolulu Oil, Union Texas Natural Gas, Republic Natural Gas, Monterey Oil, and Plymouth Oil companies, disappeared as a result of mergers. One estimate for the decline of independent operators put the number at about 75 percent for the decade ending in 1969 (Olien 2008:11).

The rise of the petrochemical industry during the late 1950s contributed significantly to rising demand for natural gas. Southwest Texas, the Permian Basin, and the upper Gulf Coast were amongst the major suppliers of this valuable resource. With increasing demand, prospectors continued to locate new gas wells during the late 1950s and 1960s. New fields found during this period were located in Bee, Goliad, Webb, Duval, Zapata, and Zavala counties. Alligator and Chocolate Bayous in the upper Gulf Coast area also produced new wells at this time. Once again, significant discoveries occurred in the Permian Basin of West Texas. The largest of these included the Oates, N.E., Sandhills, Lockridge, Waha, Toro, Sawyer, Block 16, Greasewood, Barstow, MiVida, Evetts, ROC, Grey Ranch, War-Wink, Vermejo, and Elsinore fields. The Gomez field in Pecos County proved the largest gas discovery since the Panhandle field. Other discoveries of note transpired in Southwest Texas in the Alazan, North, Laguna, Zone 21-b trend, Laredo, C. J. Martin, and McMurray fields. During the late 1960s and 1970s, prospectors located major gas fields in East Texas, including the Trawick and Oak Hill fields. Other natural gas discoveries of this period include the Giddings of Central Texas; the Washita Creek, Buffalo Wallow, and Canadian fields of Southeast Texas; and the Douglas field in the Panhandle (Olien 2008:12).

The price of natural gas steadily grew during the late 1960s and early 1970s, reaching $.35 per thousand cubic feet of gas in 1973. Consequently, prospectors continued the search for yet more gas fields. The price of oil also rose during this time, prompting the Railroad Commission to increase production limits to the maximum efficient rate. With production running at full capacity, Texas reached an all-time high of 1,263,412,000 barrels of oil for the year 1972. Overall crude reserves, however, continued to decline (Olien 2008:12).

During the early 1970s, war in the Middle-East led to an embargo on crude oil from Muslim countries to the United States and Netherlands. The event enabled OPEC to transfer economic power from multinational consumers, like the United States, to foreign suppliers, like those in the Middle East. Subsequently, Arabian oil rose dramatically from $5.40 to $17 a barrel. The United States responded by raising price caps on domestic crude, doubling the price of certain grades of oil. Oil drilling in Texas increased dramatically during this time. The number of Texas oil rigs in operation jumped 35 percent between 1973 and 1974. The number rose another 26 percent the next year. The boom lasted until 1976, when the federal government lowered price ceilings for crude. Thereafter, the number of wells completed on land declined slightly. Offshore drilling, however, increased. Significant discoveries occurred in Galveston Bay and elsewhere along the Gulf Coast (Olien 2008:13).

Drilling on land increased and decreased according to federally mandated price rates. Offshore, drilling continued to increase as demand for natural gas rose in 1977. Following completion of the Alaska Pipeline in 1978, the price of oil dropped slightly until destabilization of the Iranian government near the end of the year. An international shortage of petroleum soon followed and the price of oil soared. President Carter removed price restrictions on domestic oil and the price increased from $12.64 in 1979 to $34 in 1980. Consequently, the average number of rigs drilling for oil in Texas increased from 770 in 1979 to 1,318 in 1981. The federal government offered financial incentives for drilling, but heavy taxation of the oil industry and increased costs for leasing, royalties, and supplies increased the costs of exploration. The cumulative effect drastically curtailed exploration throughout the state. Gas exploration remained active in offshore areas, and in South and Central Texas, but elsewhere the industry slowed to a crawl (Olien 2008:14).

With few new horizons remaining in the world of Texas oil exploration, oilmen turned to old fields to extract what they could. The larger oil companies, like Shell, Mobil, Amoco, and Gulf, began injecting carbon dioxide into old wells in the Permian Basin to force oil to the surface. Elsewhere, operators injected gas or saltwater into wells to boost pressure within oil-bearing strata. During the early 1980s, however, demand for oil slackened and the price declined. In March 1983, OPEC reduced the price of oil from $34 to $29 a barrel, precipitating further decline in the economy. In Texas, businesses closed and the real estate market suffered. In October 1983, the National Bank of Midland, Texas' largest independent bank, failed. Over the next two years the price of oil fluctuated slightly, but generally declined, forcing more economic hardship in areas dependent largely on the oil industry. By 1986, the number of rigs operating in Texas fell from 677 the previous year to 311. In 1989, only 206 rigs remained in the field, or just one-sixth the number in 1981 (Olien 2008:14).

During the late 1980s, new technologies better enabled oil and gas men to locate untapped pockets. The Austin Chalk fields of Central Texas continued to produce with the help of horizontal drilling. Although natural gas exploration declined overall, three-dimensional geophysical modeling improved offshore survey techniques. Nevertheless, the number of natural gas rigs in Texas fell to 315 in 1991, less than 25 percent the number in 1981. By 1992, Texas oil reserves were down to 6,797,000,000 barrels or less than 50 percent the total for 1952. Production was reduced to 612,692,000 barrels a year, which was half the quantity achieved in 1972 (Olien 2008:14).

Despite a gradual decline in oil and gas production, Texas remained number one in refining capacity. In 1992, the seven largest refineries—Amoco, Exxon, Chevron, Mobil, Lyondell Petrochemical, Star Enterprise, and Shell—all had production capacities of over 200,000 barrels of oil a day. Altogether, Texas refineries that year created 784,805,108 barrels of gasoline, 136,972,276 barrels of home heating oil, and 107,953,913 barrels of jet fuel. Much of the 1,265,156,579 barrels of oil processed that year came from Saudi Arabia, Canada, Mexico, and Venezuela (Olien 2008:15).

Although Texas remained a major refining center during the 1980s and 1990s, one-third of the industry's employees lost their jobs between 1982 and 1994. Downsizing at major oil companies became the trend, forcing both white- and blue-collar workers to move toward other sectors. As a result, petroleum-related revenue decreased, as did property taxes in declining communities. The situation motivated state and local governments to seek out new industries as a means to diversify their economies. The petrochemical industry continued to expand slightly, providing some compensation for a waning oil industry, but it was clear that future economic growth would not come from petroleum-based businesses (Olien 2008:15).

Texas Railroad Commission

By the 1890s, the nation's railroads had become symbols of greed and corruption. During that time, the largely agrarian-based Populist Movement generated much support for its hard stance against unfair rate practices. Taking advantage of this sentiment, James S. Hogg won the governorship of Texas in 1890, based largely on his promise to get the state's railroads under control. Hogg kept his promise, and in 1891 as governor, he amended the state constitution to allow for the organization of a regulatory body that would oversee railroads within the state of Texas. The organization, called the Texas Railroad Commission (TRC), was given authority to regulate railroad operations, including shipping rates, terminals, wharves, and express companies. Initially, Governor Hogg appointed a three-man team to oversee the TRC. The organizing body consisted of Chairman John H. Reagan, Judge William Pinckney McLean, and Lafayette L. Foster. After 1894, commissioners were elected to overlapping, six-year terms (Prindle 2008:1).

Prior to the TRC, the state's railroads were regulated by the Interstate Commerce Commission (ICC). This federal organization, created in 1886, oversaw railroad operations throughout the country. Despite creation of the TRC, the ICC would remain the ultimate authority regarding railroads in the state of Texas. The TRC, therefore, was often preempted by the ICC when attempting to control interstate shipping rates, allowing the new agency only limited success (Prindle 2008:01).

Because oil and gas pipelines transport commodities throughout the state and beyond, in 1917 the Texas state legislature granted the TRC authority to regulate the state's energy industry. The TRC initial involvement with pipelines focused largely on the issue of who should use pipelines. Like railroads, these transmission systems were legally bound to function as common carriers, transporting the oil of anyone who would pay for the service. The TRC aimed to enforce this rule, keeping the pipeline system open for everyone (Prindle 2008:1).

Within two years, the TRC was overseeing well-spacing rules, and shortly thereafter, gas utilities. By the early 1920s, TRC responsibilities were greatly expanded from their original limits. As regulators of gas prices, the TRC now had jurisdiction over how much gas could be removed

from the ground at any given time. The commission's ability to prorate Texas oil wells would have great impact on the prolific East Texas oil fields during the turbulent 1930s (Prindle 2008:1). With oil prices at an all time low in 1931, Governor Ross Sterling ordered the East Texas fields shut down. Through the TRC, Governor Sterling was able to carry out his demand, but the decision later was overruled by a federal court (Wolff 1963).

Though often controversial, the TRC ability to prorate enabled it to prevent overproduction by enforcing conservation. Such regulation not only stabilized prices, it prevented unchecked waste of natural resources. Prior to the late 1940s, oil producers typically flared casinghead gas at the well site. It is estimated that during the mid-1940s, about 1.5 billion cubic feet of natural gas was burned off each day throughout the state. TRC commissioner William J. Murray, Jr., found this practice appalling and took measures to stop it entirely. In 1947, the TRC issued a directive ordering oil producers to return the gas to the well. By pumping gas back into the ground, the resource was conserved for later use and it provided pressure within the well, which served to boost oil production (Prindle 2008:2).

During the early 1970s, TRC influence began to decline. As Texas oil reserves dwindled, and the country began to rely more and more on foreign oil, power over America's energy shifted to OPEC. By the 1990s, the TRC was largely relegated to monitoring the environmental aspects of the state's oil production and regulating output among producers. Among the regulatory divisions remaining under TRC jurisdiction are Oil and Gas, Transportation-Gas Utilities, Surface Mining and Reclamation, and Liquefied Petroleum Gas (Prindle 2008:2).

Victoria County Oil Industry

As elsewhere in Texas, early oil and gas discoveries in Victoria County often were regarded as a nuisance rather than a stroke of luck. In a region devoted to raising livestock, the availability of water, not oil, determined the limits of economic growth. An unexpected geyser of saltwater or crude oil, unleashed while drilling for freshwater , not only ruined the prospects of generating water from the bore, it ruined precious feed grasses in the immediate vicinity (Mooney 1959:21). Such events, no doubt, were frustrating to the Victoria ranchers, who typically held the view that, "if it wasn't fit for a cow, it wasn't fit for anything" (Grimes 1968:588). It comes as no surprise, then, that locals had more fear of petroleum than respect. A few men, however, saw potential in the gas and oil fields beneath the grazing lands, and, despite the general disdain that ranchers expressed toward oil and gas, these early wildcatters sought ways to exploit this potential resource.

Perhaps the first attempt to locate oil in Victoria County was made by L. D. Heaton, a Potsdam, New York, druggist and early resident of Victoria. Heaton spent much of his spare time searching for mineral deposits around the county. A progressive citizen believing in the economic potential of local oil and clay resources, he solicited financial backing from eastern capitalists and even attracted the attention of the Chemical National Bank of New York. Despite his efforts, however, nothing seems to have come of this ambitious endeavor (Grimes 1968:589).

Not until the unprecedented success of the Spindletop discovery at Jefferson County did anyone take more serious measures to locate oil in Victoria County. By this time, the growing auto industry was creating a wider market for petroleum-based products, and the search for yet more great gushers prompted prospectors from all walks of life to seek out new reserves (Grimes 1968:589).

Though Victoria was largely a ranching community, it was not immune to oil fever. By the end of 1901, nearly the entire county had been leased out at $.10 per acre (Mooney 1959:21). One of the early efforts to drill an oil well occurred at the hands of the city itself. In 1909, the city hired a Houston-based company to drill water wells along the Guadalupe River. The city soon changed its plans when oil began to seep into the bore. Motivated by City Council member E. L. Dunlap, the city instructed the drillers to continue deeper, in hopes that the well might produce more oil (Wolff 1963). At 1,200 feet, they hit gas and saltwater, prompting the city fathers to abandon the project. Satisfied with the artesian well that flowed above the gas- and saltwater-bearing strata, the county ordered the well sealed below the freshwater zone (Mooney 1959:21).

In 1911, Irvin Kibbe tried his hand at oil exploration. He drilled a well on his property south of Victoria, reaching gas and freshwater at 1,275 feet. Up to that time, Kibbe's well was the deepest ever drilled in the county. He enticed prominent geologists to his property and maintained correspondence with the United States Geological Survey (USGS), but had little success producing oil. He did, however, locate an early geological report that attested to the county's potential for significant oil and gas production (Grimes 1968:589).

The optimistic USGS report likely motivated many would-be wildcatters to continue the search for Victoria County's elusive oil reserves. One such man, a Victoria dry goods merchant by the name of J. M. Haller, went so far as to invent and build his own drilling rig. Using a tractor engine for power, Haller's rig sank a bore 948 feet deep before reaching the limits of its capabilities. Aside from some asphalt-laden rock fragments, and a strong stream of gas, Haller's endeavor failed to achieve significant results (Grimes 1968:590).

Drilling and exploration continued on a regular basis throughout the 1900s and 1910s. During that time, numerous petroleum companies took up leases in Victoria. Among these were the Guffey Petroleum Company of Pittsburgh (later Gulf Oil Corporation), and the locally organized Victoria Oil & Gas Company and Guadalupe Valley Oil Company. These companies sank a number of wells around the county, hoping to locate the next big oil boom. Little, however, seems to have developed from these early activities (Olien 2008). Many of these explorations located pockets of natural gas, but the county had no pipeline system in place to make use of this otherwise useless commodity. Not until the beginning of the Great Depression would anyone attempt to develop a serious infrastructure for Victoria County's oil and gas resources (Mooney 1959:21).

In 1920, Victoria County-based Guadalupe Valley Oil Company hired mining engineer George F. Hinton, Ph.D., to locate a pair of oil wells on the J. H. Weaver property some nine miles south of Victoria. The company failed to locate oil, but Dr. Hinton drew up a map that accurately outlined a couple of oil fields, including what came to be known as the Coleto Creek Field and the O'Connor Field. During the early 1930s, these fields were in fact proven to exist (Grimes 1968:590).

The locally organized Victoria Oil & Gas Company also sank wells during the early 1920s. Organized by Leopold Morris, the company drilled a total of four wells, including the Santa Clause Nos. 1 and 2. The wells were unsuccessful and nothing more came of the Victoria Oil & Gas Company (Grimes 1968:590). Following the early 1920s, little seems to have developed in the way of oil discoveries. Not until the beginning of the next decade would Victoria County finally strike oil.

During 1930, efforts to locate oil in Victoria County intensified after explorers located a number of promising oil and gas fields. A 1930 map of Victoria County showed locations of known oil and gas fields at that time (Figure 28). On Sunday, 9 February 1930, the Humble Company struck gas on the Jay Welder Ranch near Nursery. At about 5,600 feet, the test well reached a pocket of gas so strong that it blew the swab out of the casing. The gas was mixed with oil, much to the excitement of onlookers. Although immediately touted as the first oil well in Victoria County, the well did not produce enough oil for commercial production (Wolff 1963).

Soon after the Humble Company well blew, the Smackover, Arkansas-based Lion Oil Refining Company located gas on the McFaddin Ranch. The company put the well into production, making it the first commercial gas well in the county. This event was immediately followed by completion of the first commercial oil well. Drilled by Texas Company, McFaddin Well No. 3 struck oil at a depth of 5,758 feet. Located on the McFaddin Ranch, the No. 3 initially delivered 500 bopd but soon sanded up (Wolff 1963). The drillers had tapped into the O'Connor-McFaddin Field, a large body of oil-bearing strata that straddled the border between Victoria and Calhoun counties. This was one of dozens of oil fields that lay beneath the surrounding countryside. Within two months, another drilling crew had tapped oil in the Keeran Field, located in the southeastern corner of the county (Mooney 1959:21). Thereafter, discoveries occurred one after the other. By the end of 1932, production figures for the county totaled 59,883 barrels of oil. These figures continued to climb throughout the 1930s, reaching 4.8 million barrels for the year 1938 (Mooney 1959:21).

Victoria County oil fields discovered during the early-to-mid 1930s include McFaddin (1930), Keeran (1932), Coleto Creek (1933), Placedo (1935), Heyser (1937), Placedo East (1937), and Telferner (1938). Among these, the McFaddin, Placedo, and Coleto Creek fields remained big producers well into the 1960s. By 1968, more than 200 oil fields and approximately 450 gas fields had been located in Victoria County (Grimes 1968:590).

These early discoveries initiated a significant oil and gas boom that would eventually play a major role in the economy of the surrounding area. The event, however, could not have come at a worse time. When the McFaddin discovery occurred, the county had only recently entered one of the worst economic depressions in its history, and oil was selling at its lowest level in years. With hundreds of wells under production in Oklahoma and East Texas, oil producers could get no more than $.05 per barrel in 1931. In response to the glut in the Texas oil market, then Governor Ross S. Sterling ordered all operations in the East Texas oil fields to stop. To enforce his orders, he sent the Texas National Guard into the fields to maintain control. The governor's plan increased the price of oil, but a federal court found his heavy-handed tactics unconstitutional (Wolff 1963).

Due to the Great Depression and a glut on the oil market, the discovery of oil and gas in Victoria County did not generate the same widespread enthusiasm as oil discoveries had at Spindletop and elsewhere. No boom towns arose as a result of the McFaddin well or its surrounding neighbors. Lacking financial motivation, wildcatters developed the Victoria fields only slowly. A mere handful of wells began operating after initial discoveries in 1930 (Wolff 1963). Nevertheless, Victoria County's newfound resources generated local enthusiasm, and production steadily increased throughout the decade. The increased revenue generated by oil attracted new businesses and industries, leading to significant population growth. Victoria County's population doubled every seven years following the discovery of oil. These people came to find jobs in the many oil industry-related businesses, including oil field equipment manufacturing and petrochemicals (Texas Department of Transportation 1992:7).

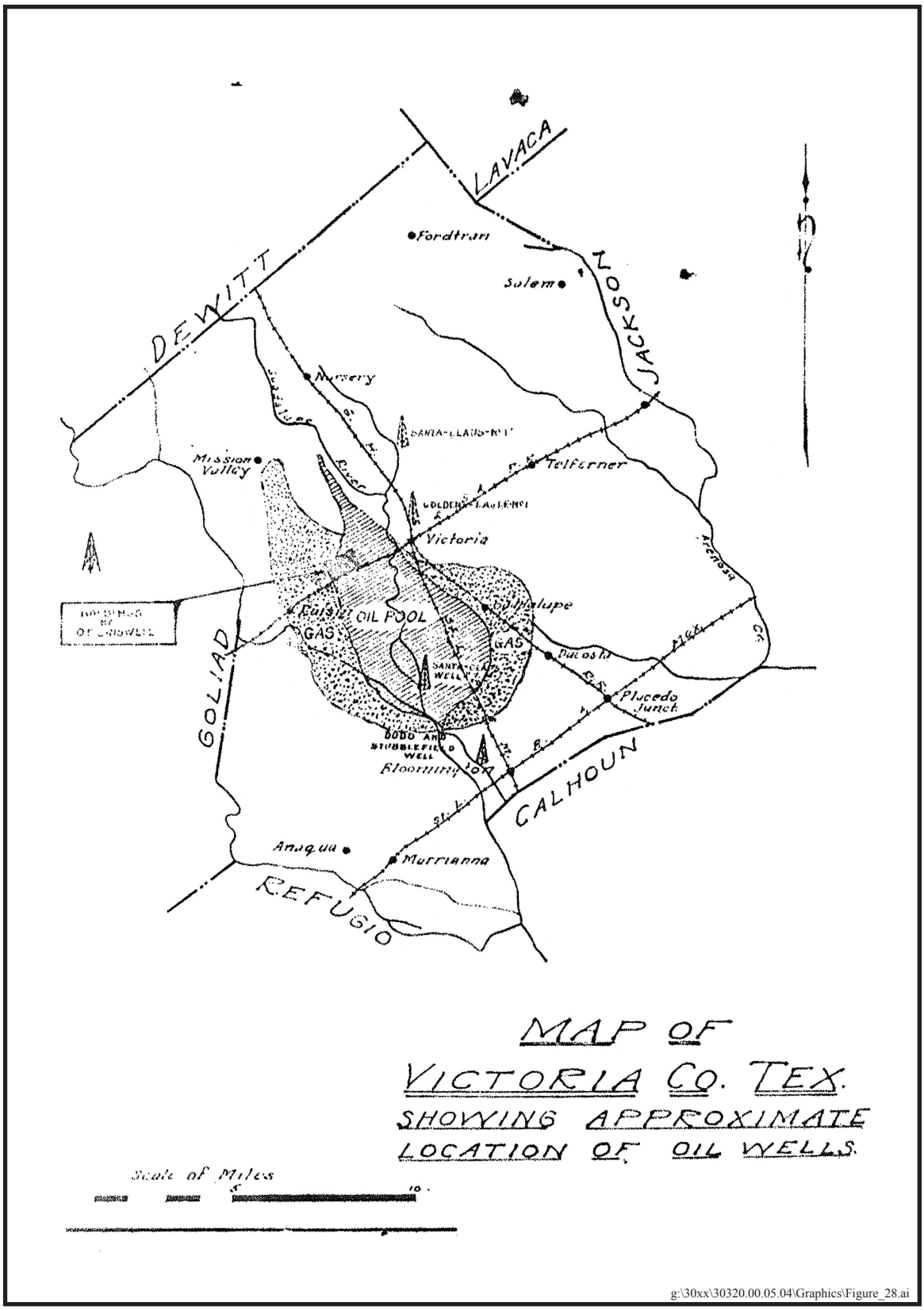

Figure 28. Circa 1930 map of Victoria County, Texas, showing approximate locations of oil wells (Texas State Library and Archives Commission 1930).

Many Victoria County landowners earned income simply by leasing out land for oil and gas exploration. During the initial wave of surveys, the increase in local incomes created a small construction boom, as developers built new houses and retail stores. The boom proved to be short-lived, and the county soon settled into a slow, gradual growth cycle. Not until the post-World War II era would Victoria County's natural gas reserves attract significant business growth (Hammonds 1999:55).

Looking to switch from coal power to gas, Delaware-based DuPont relocated its plastics plant to Victoria County in 1948. After purchasing 1,725 acres of land, DuPont built a nylon intermediaries plant. This move was part of a growing trend whereby industries that previously relied on coal for energy were now switching to gas. With an abundance of natural gas at its disposal, Victoria County continued to attract more industries looking to make the energy switch. By 1952, the region's natural gas supplies had attracted Union Carbide to neighboring Calhoun County. Alcoa Aluminum and Formosa Plastics also relocated to neighboring counties. Although these industries were located outside Victoria County lines, they generated income for residents who resided in the county (Hammonds 1999:55).

The ensuing influx of factory workers created a significant housing boom during the 1950s. Between 1950 and 1960, the population of Victoria rose from 16,126 to 33,047. By 1970, the population had reached 41,439 (Peter and Prior 2008:101). To accommodate the thousands of new residents, developers constructed large housing tracts. They also built new retail stores to meet the needs of the people, which in turn created more jobs. Among the large retail centers built during the boom of the late 1950s and early 1960s were the Village Shopping Center, Town and Country Shopping Center, and Town Plaza Mall. These centers were followed by large chain stores like K-mart, Albertsons, and Safeway (Hammonds 1999:56). Altogether, from the end of World War II to 1968, manufacturing, wholesale, and retail businesses within Victoria County increased from 442 to over 1,000 firms (Peter and Prior 2008:101).

The postwar economic boom taxed Victoria's infrastructure, forcing the city to pass bond measures for new schools, streets, sewers, and water facilities. The county, too, had to keep pace with growing demand by building new roads and bridges. All this required heavy taxation to pay for construction, but the citizens stepped up to the challenge and the necessary changes were made. By the mid-1960s, the city had a host of new schools, hospitals, churches, parks, and public buildings (Grimes 1968:607–608).

The boom of the 1950s began to slow during the late 1960s and early 1970s. Like elsewhere in the nation, oil and gas production slowly declined, but nevertheless remained a significant factor in the local economy. By the early 1980s, annual oil production figures for Victoria County totaled around 2 million barrels, generating over $57 million in gross revenues. Petrochemical companies that located to Victoria County from the late 1940s to the 1950s remained major employers throughout the 1970s and 1980s, but population growth slowed. By 1980, the city of Victoria included 50,695 residents, showing an increase of less than 20 percent since 1970. Approximately 3,600 of these residents found employment at the 62 industrial plants located throughout the county. The plants generated a total of $644.2 million in revenues, creating $85.1 million in wages (Peter and Prior 2008:101).

McFaddin Ranch Oil and Gas History

Exactly when oil was first discovered on the McFaddin Ranch remains uncertain. One source indicates that oil appeared by accident during an attempt to drill a water well (Hammonds 1999:55). This suggests that the McFaddins might have known for some time that gas and oil existed on the property. Not until 1930, however, did anyone launch a significant search for oil and gas on the McFaddin Ranch. At that time, the Texas Company drilled a series of eight wells around the ranch. One of these, the No. 3 well, produced oil at a rate of 500 barrels per day for several months before sanding up. The Texas Company continued drilling on the No. 3 in an attempt to restart the flow of oil. After drilling an additional 2,000 feet, the oil company concluded that the well would not produce and the project was abandoned. Before the well dried up, however, it produced about 90,000 barrels of oil (Victoria County Genealogical Society 2000:102).

About the same time that the Texas Company was sinking wells, the Arkansas-based Lion Oil Refining Company (LORC) also attempted to locate oil on the McFaddin Ranch. What the refining company found, however, was natural gas. Although most oil prospectors seem to have ignored this resource, LORC put it to use. How it stored or transmitted the gas remains uncertain, but contemporary accounts indicate that the city of Victoria and the surrounding ranches themselves received natural gas for lighting and heating. This suggests that either LORC or some other competing company invested in the infrastructure necessary to transmit natural gas to throughout the area. By the early 1930s, even the McFaddin Ranch had natural gas lighting and heating. Interestingly, the ranch did not have electricity until 1940 (Victoria County Genealogical Society 2000:102).

Following initial discoveries within the McFaddin field, information pertaining specifically to the field becomes scarce. The reason for this stems from the fact that, unless additional discoveries of importance occur within the field, the daily routine of the resource becomes one of monotonous maintenance and uneventful extraction. One available newspaper account, however, reveals that in July 1973, Sun Oil Company opened a new oil zone within the McFaddin field. The well was numbered 41, and it was located 5 miles southwest of Bloomington. It was reported as delivering 60 million cubic feet of gas, and 60-gravity condensate at a ratio of 47,700 to 1 through 6,726 to 28 perforations. Well No. 41 also was also producing 34 barrels of 38.8 gravity oil per day from 6,487 to 6,492 feet. The Railroad Commission also granted the field a new rate of pay (*The Victoria Advocate* 1973:7a). This event transpired during the oil embargo that drove the price of oil up and prompted the Railroad Commission to loosen drilling restrictions. During that time, a flurry of drilling activity transpired throughout the state. Indeed, the Oil & Gas Report for July 29, 1973, provides a list of several new wells within Victoria and neighboring Goliad counties, indicating that wildcatters were hard at work in Southwest Texas.

Regarding Well No. 41, the well was producing a mere 34 barrels of oil per day, compared to 60,000,000 cubic feet of gas per day. This might suggest that oil had declined in the field, leaving natural gas as the primary resource of interest. With a number of large petrochemical industries in the vicinity, including DuPont, natural gas extraction had been an important industry since at least the late 1940s. How much of a role McFaddin natural gas played in the local petrochemical industry remains uncertain, but it likely contributed to overall production.

Following the 1973 Oil & Gas Report, little information exists to indicate how the field evolved. The lack of oil wells on the ranch suggests that oil production came to an end at some point in the last 35 years. Today, an extensive network of gas pipelines crisscrosses the McFaddin Ranch, transporting gas from outlying wells to compressor stations and beyond. The Denver-based oil and gas conglomerate Apache Corporation maintains most of the wells and pipelines. Much of the extant equipment likely dates from the 1970s to the present.