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ARTICLES

NOTES AND DOCUMENTS

COOSAW ROCK ALCHEMY: A SHORT HISTORY OF RIVER-PHOSPHATE MINING IN BEAUFORT COUNTY

JOHN MARTIN DAVIS, JR.*

THE SOUTH CAROLINA PHOSPHATE BOOM, WHICH PEAKED IN the last decade of the nineteenth century, is often described as a Charleston phenomenon. This is accurate only in the same way that the Appalachian coal industry was based more in New York City boardrooms than in southern mountains and valleys. While phosphates were found near South Carolina's major port, the bulk of the rock mined in the state and the profits generated by it came from Beaufort County. But few fortunes in Beaufort grew from that industry. The county was left with devastated lands—one observer wrote that a mined phosphate field "resembles more than anything the track of a tornado"—and unemployed workers.[1] When a massive hurricane struck Beaufort in 1893, the phosphate gangs were left in the pits they had dug on low-lying coastal islands. The islands inevitably flooded, thousands of local workers were killed in a single night, equipment was destroyed, and the industry never recovered. But the hurricane was just the most dramatic assault on phosphates. In addition, government overregulation and a number of other economic difficulties proved equally destructive. Eventually, after less than four decades, all of the phosphate-mining companies were driven into receivership and liquidation.

In its short life, the phosphate industry provided the state of South Carolina with millions of dollars in tax revenue. For Beaufort, however, the story is much grimmer. It is one of exploitation and abandonment. Previous histories have concentrated on Charleston mines and fertilizer manufacturers. This study concerns the Beaufort County operations, where the state's production and royalty income were centered.[2]

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[1] Arthur Mazyck and Gene Waddell, *Charleston in 1883* (Easley, S.C.: Southern Historical Press, 1983), xv.

[2] The most comprehensive history of the phosphate industry in South Carolina is the unpublished Master's thesis in chemistry by Helen Florilla Mappus, "The Phosphate Industry of South Carolina" (University of South Carolina, 1935). Other valuable works include Philip E. Chazal, *The Century in Phosphates and Fertilizers: A*

The benefits of phosphorous to plant growth have long been known. For centuries Incan Indians spread Peruvian guano as a fertilizer, and Europeans learned from Native Americans how to use manure, bones, and horns for the same purpose. In 1804 Swiss scientist Nicolas-Théodore de Saussure determined that plants could not exist without phosphorus. The use of phosphate supplements on crops increased after 1840, when German chemist Justus von Liebig discovered a method for producing "superphosphates" from bones and sulfuric acid. John Bennet Lawes, of the Rothamsted Experimental Station in England, patented a similar process in 1842. Between 1857 and 1867, five thousand tons of phosphorus-rich South American guano were exported to England for agricultural purposes. Pacific island guano and marine fossils were exploited as secondary materials after the price of Peruvian guano increased.[3]

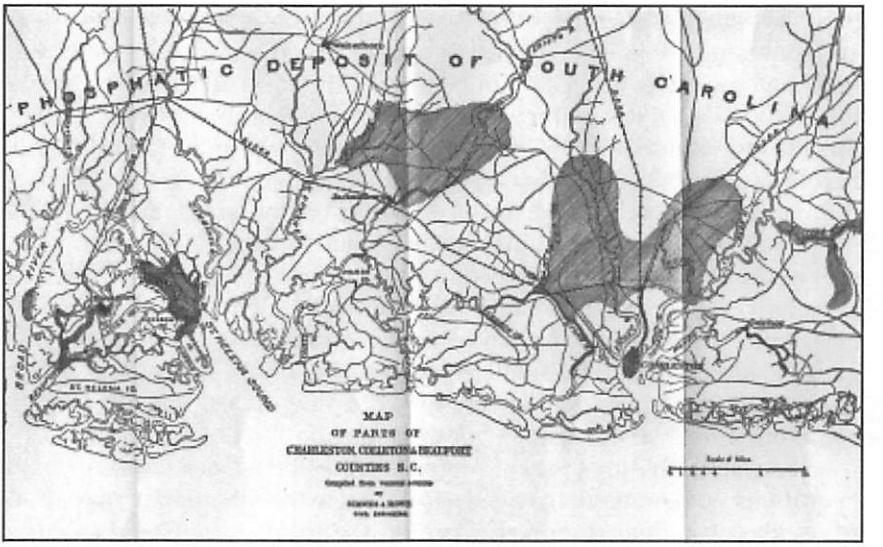
In the United States, the Pacific Guano Company was the principle importer of albatross guano. The raw material was transported by sailing ship to a fertilizer plant in Woods Hole, Massachusetts, where it was processed with Sicilian sulphuric acid and marl. When postbellum southern planters began turning to chemical additives to revitalize their depleted cotton fields, Pacific Guano built a second manufacturing facility, estimated to have cost more than $1 million, in Charleston in 1870 to process locally mined phosphate rock into fertilizer. St. Julien Ravenel was the local chemist, and J. N. Robson served as the company's southern agent and plant supervisor.[4]

In the first half of the nineteenth century, phosphates were discovered in South Carolina in a number of local "fields"named for the river basins where they were located: from north to south, those rivers were the Wando, Cooper, Ashley, Stono, Edisto, Coosaw, and Bull. Though many of the discoveries were made before the Civil War (Edmund Ruffin of Virginia promoted the development of phosphate marl in the 1840s), industrial mining did not begin until after the war, when the emancipation of enslaved plantation workers began to spell the end of the state's cotton and rice crops. In 1880 Charles U. Shepard, Jr., a retired professor of chemistry at the

Sketch of the South Carolina Phosphate Industry (Charleston, S.C.: Lucas-Richardson Lithograph and Printing Co., 1904), and Tom W. Shick and Don H. Doyle, "The South Carolina Phosphate Boom and the Stillbirth of the New South, 1867-1920," *South Carolina Historical Magazine* 86 (January 1985): 1-31 (the *South Carolina Historical Magazine* is hereinafter cited as *SCHM*). The best general study of the industry is Carrol D. Wright, *The Phosphate Industry in the United States* (Washington, D.C.: Commissioner of Labor, 1893).

[3] F. S. Holmes, *Phosphate Rocks of South Carolina and the "Great Carolina Marl Bed"* (Charleston, S.C.: Holmes' Book House, 1870), 87; Eduard Farber, "History of Phosphorus," United States National Museum Bulletin no. 240 (Washington, D.C.: Smithsonian Institution, 1965), 185-189.

[4] Holmes, *Phosphate Rocks of South Carolina*, 87; Farber, "Phosphorus," 185-189.



An 1881 map of South Carolina's phosphate deposits, compiled by Charleston engineers George M. Wells and William H. Simons from contemporary coast-survey charts and Robert Mills's *Atlas of the State of South Carolina* (1825).

Medical College of South Carolina in Charleston, identified eight possible production zones for commercial phosphates. The most promising were located between the Edisto and Broad Rivers on the state's southern coast. The Coosaw River territory in Beaufort County, with reserves estimated at between five and six million tons, was described as almost "inexhaustible." At a prevailing wholesale market price of six dollars per ton, the deposits promised a windfall for South Carolina's depressed postwar economy. Since river bottoms were considered part of the state's navigable waterways and hence were public property subject to regulation, state officials quickly realized that the extraction of phosphate reserves could be a taxation boon, as well.[5]

Shepard's warnings to the General Assembly that overproduction and lack of quality controls would harm the market price of the premium product, "Coosaw Rock," went unheeded. South Carolina's annual budget was only slightly over $1 million at the time, and phosphate royalty fees soon provided 10 percent of all state revenue. The infant industry excited

[5] Charles U. Shepard, Jr., *South Carolina Phosphates: A Lecture . . . with a Map of the South Carolina Phosphatic Deposits* (Charleston, S.C.: News and Courier Book Presses, 1880), 1-8, 17-19.

South Carolinians as much as oil would thrill Texans fifty years later, and each new study seemed to suggest that the resources were even greater than had been expected, especially in Beaufort County. In 1904, after years of mining, the Broad River alone was reported to contain sixty-seven million tons of raw material. The Coosaw River basin, where the highest-grade fossil phosphates were found, held another twelve million tons. Revised estimates of the total river deposits exceeded one hundred million tons.[6]

Two Coosaw River islands, Williman and Chisolm, were among the first in the state to be land mined. In this process, exposed rocks in tidal streams were gathered at low tide. Sea-island freedmen, long accustomed to cotton-plantation work, were paid piece rates for mining the trenches. Work gangs loaded the ore onto small river barges called "lighters," and at high tide, steam tugs towed the lighters to processing plants. The transporters could not remain at the digs longer than the tide cycle.

Inevitably, the prospect of huge revenues being picked at by small operations with minimal invested capital drew the attention of industrialists with substantial resources. Leading the group was George Walton Williams of Charleston. Williams was responsible for rebuilding much of Charleston's industrial base after the Civil War, including such facilities as iron works and warehouses. He had the support of out-of-state investors and financed his ventures by borrowing from institutions such as Brown Brothers and Company of London; Drexel, Morgan and Company of New York; and the Bank of Liverpool. When Williams turned to phosphates, he founded two entities, Marine and River Phosphate Mining and Manufacturing Company and Carolina Fertilizer Manufacturing Company.[7]

In March 1870 the South Carolina legislature passed a bill that granted exclusive rights to mine phosphate in all of the navigable rivers of the state to Williams and seven other men. This legislation is sometimes called the "Williams Phosphate Law." The eight men represented the Marine and River Company, which was chartered for twenty-one years for "digging, mining and removing the phosphate rocks and phosphatic deposits from the beds of the navigable streams and water within the jurisdiction of the State." In exchange, the company was required to post a fifty-thousand-dollar surety bond to ensure payment of one-dollar-per-ton royalty fees due the state after the ore was shipped. The General Assembly's exclusive grant gave the men and their company a virtual monopoly. Governor Robert K. Scott opposed vesting so much power in one company, because he did not

[6] Ibid., 28.

[7] E. Merton Coulter, *George Walton Williams: The Life of a Southern Merchant and Banker, 1820-1903* (Athens, Ga.: Hibriten Press, 1976); George W. Williams, *History of Banking in South Carolina* (Charleston, S.C.: Walker, Evans and Cogswell, 1900). Williams's out-of-state partners were also involved in his banking companies, Carolina Savings Bank of Charleston (capital of $500,000), First National Bank of

Marine and River Phosphate Company stock certificate, February 20, 1883. From the author's personal collection.

believe a single producer was capable of exploiting the concession to the fullest benefit of the state. Also challenging the bill were smaller companies, which sometimes pointed to the plight of the individual miner who would be cut out of the increasingly lucrative industry. "To give this exclusive right," agreed Senator Richard H. Cain of Charleston, "would be to take bread out of poor men's mouths." Nonetheless, the bill passed, even over Scott's veto, amidst charges that Williams and his associate David T. Corbin had bribed members of the legislature.[8]

While the Marine and River Company alone mined the Stono, Ashepoo, Bull, Coosaw, and Beaufort Rivers, it was just one of many companies actively land-mining phosphate rock. Even when mining was just getting started in the early 1870s and the state's total phosphate production was barely twenty thousand dollars, expectations were high. Half of the business advertisements carried in the *Southern Almanac* as early as 1870 were placed by fertilizer manufactures, which were responsible for most new factory jobs in South Carolina.[9]

Charleston (capital of $500,000), People's National Bank (capital of $1 million), and Bank of Charleston National Banking Association (capital of $600,000).

[8] Mappus, "The Phosphate Industry of South Carolina," 31-32; Chazal, *The Century in Phosphates and Fertilizers*, 51-54; Coulter, *George Walton Williams*, 158.

[9] *Southern Almanac* (Charleston, S.C.: Walker, Evans and Cogswell, 1871).

The Pacific Guano Company purchased two-thirds of Chisolm Island (about thirty-five hundred acres) in 1869 for thirty thousand dollars. The balance of Chisolm Island (about fifteen hundred acres) was owned by a British joint venture, Wallis and Campbell, formed in London the same year. Neighboring Williman Island was acquired by J. B. Sardy of Charleston. In contrast to Williams's extensive economic portfolio, Sardy was described simply as "an old and experienced manipulator of fertilizers with offices in Savannah and New York."[10]

Conflicts between the various companies were frequent. Soon after Marine and River gained its exclusive rights, Beaufort County land-mine owners objected that Williams's employees were not satisfied with just taking the rock from the tidal rivers and creeks and instead were trespassing on neighboring lands to gather even more phosphate. On November 1, 1870, William Dennison Porter and James Connor of Charleston, attorneys for the Williman Island Company, complained to Williams, by now president of Marine and River, about the trespass. Six months earlier, Marine and River had licensed the riparian (riverbank) mining rights to the Coosaw Mining Company and the South Carolina Phosphate Company (Oak Point Mines). Williams denied the charges and directed the plaintiff to contact his Broad Street attorney David T. Corbin, a northerner who held influence with the Republicans then running state government. The subsequent lawsuit alleged that the Marine and River miners were "digging and removing phosphates from the lands of the Williman Island Company on North Wimbee Creek." It took five years to finally resolve the dispute.[11]

The Marine and River trespassing case was initially decided in Williams's favor. The court held that since North Wimbee Creek was part of the navigable waterway, it was open to public mining and consequently no trespass had occurred. However, an appeal was filed, eventually leading Marine and River to settle the litigation by permanently transferring its sea-island rights to three competing companies: the lucrative Beaufort properties were assigned to the Coosaw Mining Company; the Charleston exclusive rights were transferred to the Charleston Mining and Manufacturing Company; and land-mining operations on Chisolm Island were purchased by George S. Scott and D. U. Jennings of New York, doing business as Oak Point Mines. (Oak Point Mines is sometimes confused with George W. Williams's processing mill at Oak Point.) Marine and River decided to settle the matter after the government's expert witness, deputy state surveyor

[10] *South Carolina v. The South Carolina Phosphate Company Ltd. (alias Oak Point Mines)*, Circuit Court Common Pleas, Beaufort County (1875), 8-11; Holmes, *Phosphate Rocks of South Carolina*, 87; Farber, "Phosphorus," 185-189.

[11] George W. Williams to Attorneys Porter and Connor, for Williman Island Phosphate Company, November 12, 1870, Mitchell and Smith Records, South Carolina Historical Society (hereinafter cited as SCHS), Charleston.

Detail of an 1877 South Carolina Land and Improvement Company map of Port Royal Harbor, depicting the heart of Beaufort County's phosphate territory.

William Hume, concluded that Wimbee Creek was not navigable, as its channel was blocked by a bed of solid rock a quarter-mile wide and a half-mile long. At low tide, the river could be crossed on foot. A negotiated settlement seemed a good business solution to the matter. Afterwards, Williams continued the phosphate fertilizer business in Charleston under the brands of Marine and River and Carolina Fertilizer.[12]

Phosphate river production increased after Marine and River withdrew, just as Governor Scott had expected. Ten more companies entered the field. Other businesses also prospered. When the Port Royal Railroad made its public offering in New York, its stock prospectus boasted of the extensive "deposits of bone-phosphates recently discovered in the vicinity of Port Royal and contiguous to the railroad." A spur rail line, the Bull River Railroad, was chartered for the land mines on Chisolm Island. Robert

[12] *Acts and Joint Resolutions of the General Assembly of the State of South Carolina, Passed at the Regular Session of 1875-76* (Columbia: Republican Printing Company, State Printers, 1876), 615-624 (no. 539); Edward McCrady, *The Phosphate Question Discussed* (Charleston, S.C.: News and Courier Book Presses, 1878).

Smalls, the escaped slave turned politician and businessman, licensed a cottonseed processing plant to make fertilizer additives. However, both the spur line and factory fell victim to the Panic of 1873. The Port Royal Railroad and the local branch of the Freedman's Bank both filed for bankruptcy during the decade-long recession. During that time, the phosphate industry was the only new economic activity in the region.[13]

Oak Point Mines and the Coosaw Company became rivals in the river industry. The two developed their properties differently. Streams on Chisolm Island, mined by Oak Point, contained beds of phosphate just beneath a shallow overburden of shell and clay. At low tide, the bottom could be "likened to one of the streets of a city, paved with cobble stones after a very heavy rain." Oyster tongs were used to recover shallow rocks, and divers brought up stones further from the bank. Near-surface deposits were quickly exhausted. Oak Point's competitor, the Coosaw Company, mined the deeper waters using heavy-duty, steam-powered clamshell dredges. The largest could reach depths of fifty feet. Buckets recovered up to six hundred pounds per scoop, which were loaded onto barges and removed.[14]

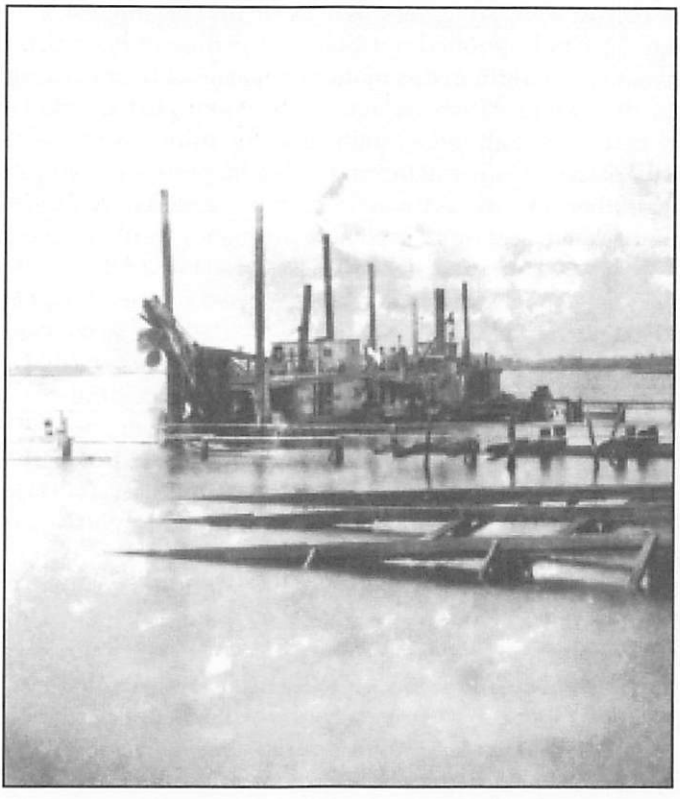
After being gathered by whichever method, the ore was then cleaned, crushed, and dried at local processing plants. Manufacturers blended the crushed rock with sulphuric acid, and finally, the finely ground marl was mixed with tankage, bone, potash, and ammonia salts to produce fertilizer. The average processing cost was $3.50 per ton.[15]

As the phosphate companies thrived, the state of South Carolina moved to ensure that the public interest in the phosphate deposits would be protected. As in the 1870 legislation, this often meant supporting the larger

[13] *Port Royal Rail-Road Company Prospectus* (New York: John W. Amerman, Printer, 1870), 17-18. For more on the Port Royal Railroad, see John Martin Davis, Jr., "'Black an' Dusty, Goin' to Agusty': A History of the Port Royal Railroad," *SCHM* 105 (July 2004): 198-226. For more on the Freedman's Bank in Beaufort, see Davis, "Bankless in Beaufort: A Reexamination of the 1873 Failure of the Freedmans Savings Branch at Beaufort, South Carolina," *SCHM* 104 (January 2003): 25-55.

[14] "Report of Referee," *State of South Carolina v. The South Carolina Phosphate Company, Ltd., Alias Oak Point Mines* (Charleston, S.C.: Walker, Evans and Cogswell, 1875), 9-10; Shepard, *South Carolina Phosphates*, 13-16. Buckets sometimes brought to the surface "the remains of the marine monsters of antiquity." The author-adventurer Nathaniel H. Bishop visited one of the mines during his travels and described a fourteen-pound prehistoric shark's tooth from a hundred-foot creature. This and other trophies were displayed in the Beaufort Library's public reading room. The offices of the George W. Williams Company also displayed some massive ancient bones, including a mastodon vertebra. Nathaniel H. Bishop, *Voyage of the Paper Canoe: A Geographical Journey of 2500 Miles, from Quebec to the Gulf of Mexico, during the Years 1874-5* (Boston: Lee and Shepard Publishers, 1878), 279-280; Coulter, *George Walton Williams*, 161.

[15] G. Sherburne Rogers, *The Phosphate Deposits of South Carolina* (Washington, D.C.: U.S. Government Printing Office, 1914), 211-213; *Palmetto Post* (Beaufort, S.C.), March 13, 1886.



Coosaw Company dredge. Photographed by J. A. Palmer of Aiken, South Carolina, circa 1878. From the author's personal collection.

corporations, which could gather the most rock and therefore pay the most revenue. On March 22, 1878, the General Assembly passed an act "to Protect the Rights and Interests of the State in the Phosphate Rock and Phosphatic Deposits in the Navigable Streams and Waters of the State," which was strongly opposed by smaller mining companies. Their attorney, George L. Buist of Charleston, argued that the state should auction "the right to dig in specified localities" rather than grant privileges outright to large producers. The spokesperson for the big phosphate companies, Charleston attorney Edward McCrady, Jr., was both a shareholder and general counsel to the Coosaw Company. McCrady accused Buist of growing "eloquent upon the wrongs of the people of Beaufort, the home of true patriots and the pride of Carolina." He reminded lawmakers that although Buist's speech was colorful, the public was better served by doing business with well-capitalized companies, even if they were foreign owned: "The desultory and inefficient

picking of rock by a few stragglers" is never in the best interest of the public, he claimed. McCrady pointed out that "the people of Beaufort, however noble, have no more right in this matter by reason of their proximity to the mines than the people of Richland have to the money in the state Treasury." He stated that "the vault in Columbia and the mines in Beaufort are like depositories of the revenues of the State." Neither town, in his opinion, had a claim over others in matters involving public property. McCrady's lobbying effort prevailed, and more exclusive privileges were awarded.[16]

The Coosaw Company, the assignee of Marine and River's original exclusive rights, was the only grant not canceled by the Phosphate Act of 1878. Under that statute, river rights were divided into two classes, exclusive and general. Three more Beaufort companies were awarded exclusive territorial grants: Oak Point Mines, for Bull River and Wimbee Creek; the Farmer's Fertilizer Company, for all of the Coosaw River not granted to the Coosaw Company as well as Whale Branch from the Broad River to the Coosaw River; and the Beaufort and Port Royal Company, for (1) Johnson's River and Battery Creek, (2) Fish, Beaufort, Bull, and Morgan Rivers, and (3) Morgan and Parrott Creeks.[17]

George Williams's old company Marine and River retained exclusive rights to the Stono River and its tributaries. Oak Point Mines exchanged its privileges for a general license to mine all non-exclusive territory. Pacific Guano and Sardy were not subject to state licenses or royalty fees, because their mines were located on privately owned land not part of the public domain. Several other independent mining companies operated royalty-free for the same reason. Smaller companies working the marshes and navigable waterways not awarded as exclusive territories were subject to royalty the same as the larger companies. A number of these individual proprietors, including David Roberts (Wimbee Creek), J. W. Seabrook (Morgan River), J. M. Crofut (Morgan River), J. Deford and J. Seabrook (Parrott Creek), and J. G. Taylor (Parrott Creek), joined in association to do business as Boatman's Mining and Phosphate Company.[18]

River mining was better regulated after passage of the 1878 Phosphate Act. Royalty payments were more timely and surety bonds in better standing. Production increased. For the fiscal year ending May 31, 1877, ninety-one phosphate transports cleared Beaufort's Custom House. That number increased 37 percent after passage of the 1878 act. The river-phosphate mines provided "full and constant remuneration" for sea-island workers, who enjoyed good living conditions and pay of up to one dollar per day,

[16] McCrady, *The Phosphate Question Discussed*, 12.

[17] *Abstracts of Laws relating to Phosphate Mining* (Columbia, S.C.: Presbyterian Publishing House, 1879), 1-4 (nos. 539 and 658).

[18] Ibid.; Mappus, "The Phosphate Industry of South Carolina," 45-46.

twice the rate for agricultural workers at the time. Labor relations during those years were free of "disorders or insubordination," in contrast with the strikes that took place in the phosphate plants in 1873 and in the rice fields three years later.[19]

Politicians took credit for the phosphate prosperity, but blamed others for periodic downturns. Following the Panic of 1873, when production declined, the comptroller general tried to collect fees a year ahead of schedule by redefining payment terms. Companies historically made royalty payments after products were "exported from the State." On October 2, 1875, however, the comptroller general advised companies that future payments were due when the rock was "dug, mined or removed." His attempt to accelerate collections to make up the budgetary shortfall failed because of a strong fertilizer lobby that convinced the legislature on March 28, 1876, to pass an act "to Settle Definitely the Periods at which Return shall be made of Phosphate Rocks . . . and the Royalty shall be Paid thereon."[20]

South Carolina became the world's leading producer of phosphates in the 1880s, with "Coosaw Rock" considered the European standard. In 1882, after a decade of activity, Governor Johnson Hagood predicted that the river deposits would always provide the benefits of "a well-ordered, smooth working, and economic government." That year, thirty-six land- and river-mining companies employed twenty-five hundred workers at an annual payroll cost of a half-million dollars. (Ironically, George W. Williams's Marine and River Company went out of business in 1882.) By then, manufacturers had invested $18 million in plants and equipment. The Charleston *News and Courier* in its 1884 almanac proclaimed that "Millions in Phosphates" would forever change South Carolina. The editors reported that the economic depression caused by "emancipation, by negro suffrage, by political misrule and official corruption" was finally at an end. In that year, fourteen fertilizer mills in Charleston and Beaufort produced over $3 million of product, and combined mining and fertilizer revenue was almost $14 million. Companies had paid dividends of $3,435,000, and in Beaufort County, annual income per capita had exceeded prewar records by 50 percent. Production had already exceeded levels estimated by Professor Shephard only five years earlier.[21]

[19] McCrady, *The Phosphate Question Discussed*, 13; Shick and Doyle, "The South Carolina Phosphate Boom," 14-15.

[20] *Acts and Joint Resolutions of the General Assembly, 1875-76*, 198-199 (no. 199); "A Protest Filed by Edward McCrady for Coosaw Mining Company, November 1, 1875, to Communication of October 2, 1875, Concerning Sections 2 and 3 of the Act of March 1, 1870, by Comptroller General of S.C.," author's personal collection.

[21] *South Carolina in 1884: A View of the Industrial Life of the State* (Charleston, S.C.: News and Courier Book Presses, 1884); *News and Courier* (Charleston, S.C.), February 4 and March 1, 1884.

Table 1: Phosphate Companies Operating in Beaufort County, 1869–1909

Company	Period	Territory	Head-quarters
Pacific Guano Co.	1869-1889	Chisolm Island (two-thirds)	Boston
Sardy Fertilizer Co.	1870-1886	Williman Island	New York
Marine and River M & M Co.	1869-1870	Chisolm Island (one-third)	Charleston
Marine and River M & M Co.	1870-1882	Navigable waters	Charleston
Coosaw Mining Co.	1870-1878	Coosaw River; Chisolm Island	Charleston
Coosaw Mining Co.	1879-1891	Upper Coosaw River[a]	Charleston
Coosaw Mining Co.	1892-1897	Licensed[b]	Charleston
South Carolina Phosphate Co., doing business as Oak Point Mines (OPM)	1870-1889	Chisolm Island (one-third)	England
South Carolina Phosphate Co. (OPM)	1876-1879	Bull River and Wimbee Creek	England
South Carolina Phosphate Co. (OPM)	1879-1892	General rights	England
South Carolina Phosphate Co. (OPM)	1892-1897	Licensed[b]	England
Farmers' Fertilizer Co.	1873-1892	Lower Coosaw River	Charleston
Farmers' Fertilizer Co.	1892-1896	Licensed[b]	Charleston
Beaufort and Port Royal Co.	1878-1892	Johnson, Fish, Beaufort, Bull, and Morgan Rivers	Beaufort
Beaufort and Port Royal Co.	1892-1896	Licensed[b]	Beaufort
Boatman's Mining and Phosphate Co.	1870-1878	Beaufort and Morgan Rivers	Beaufort
Palmetto Phosphate	1877-1878	Beaufort River	Beaufort
Carolina Mining Co., doing business as Brotherhood Mines	1885-1892	Beaufort, Johnson, and Morgan Rivers	England
Hume Brothers, Ltd.	1885-1887	Licensed[b]	England
Baldwin Fertilizer Co.	1887-1896	Licensed[b]	England
Carolina Mining Co.	1892-1896	Licensed[b]	England
Carolina Mining Co.	1886-1896	Williman Island	England
Carolina Mining Co.	1889-1896	Chisolm Island	England
Central Mining Co.	1896-1906	Licensed[b]	France
Virginia-Carolina Chemical Co.	1896-1909	Licensed[b]; Chisolm and Williman Islands	Richmond

[a] Thirteen-mile exclusive territory.

[b] General right to dig and mine phosphates and phosphatic deposits, granted by authority of the South Carolina Board of Phosphate Commissioners, February 24, 1891.

Sources: Compiled by the author from multiple sources.

Because South Carolina initially restricted river phosphate mining only to local corporations, foreign companies were forced to use domestic holding companies to mine state waters. Former Confederate officers served on the boards of some companies for the sake of appearance. One even overprinted obsolete Confederate currency with fertilizer advertisements to enhance its local image. The message, engraved on the back of the bill, invited customers to "examine the Fossils and Phosphate Specimens from the deposits of the Marine and River Phosphate M.&M. Co. of Charleston, South Carolina."[22]

Some companies were owned by South Carolinians, primarily Charlestonians. Christopher G. Memminger, the first Confederate secretary of the treasury, managed the Sulphuric Acid Company and its affiliate, Etiwan Superphosphates of Charleston. All of the owners of this company were local. Also locally owned, Farmers' Fertilizer Company of Charleston manufactured a "first-class article" for Carolina planters. Their one-hundred-thousand-dollar Ashley River mill was managed by company president William G. Whilden. It was financed through a public offering of one-hundred-dollar-par-value stock payable in ten installments of ten dollars. In 1873 superintendent Henry T. Peake moved the company's thirteen flats and forty river-mining laborers to the lower Coosaw River, where it operated two steam-driven dippers.[23]

A number of companies entered the river-phosphate business after Coosaw Rock became the industry standard, and operations on the river grew. A new mill was built on Lucy Creek. Pacific Guano worked the balance of Chisolm Island as well as surrounding Palmer and Horse Creeks with steam machinery. It had the benefit of a narrow-gauge locomotive with movable track. Independent miners such as Joseph G. Seabrook managed smaller crews. David Roberts owned thirty flats and W. H. Rentz had ten barges. Oak Point Mines, which had been mining manually, mechanized its operations when it leased from Marine and River for thirty thousand dollars three dredges, thirteen lighters, and three wash boats, previously stationed in the Stono River.[24]

Coosaw Rock was so well regarded that counterfeit brands appeared, and state officials decided that their brand name needed protection in the marketplace. The state phosphate inspector was charged with that respon-

[22] Austin M. Sheheen, Jr., *South Carolina Obsolete Notes and Scrip: A Comprehensive Listing of State, Broken Bank, Town, City, Railroad Scrip, and Other Miscellaneous Notes* (Camden, S.C.: Midlands Printing, Inc., 2003), 345.

[23] Mappus, "The Phosphate Industry of South Carolina," 20-24; Holmes, *Phosphate Rock of South Carolina*, 74-81.

[24] Holmes, *Phosphate Rock of South Carolina*, 86ff.; Mappus "The Phosphate Industry of South Carolina," 33; *Beaufort Republican* (Beaufort, S.C.), December 19, 1872.

sibility. He periodically verified the quality and quantity of phosphates dug, mined, excavated, and removed as well as rock stored on vessels, railroad cars, and conveyances. The Phosphate Inspector Act of 1878 also required manufacturers to provide copies of proprietary "formula representing the average contents of each fifty tons" of fertilizer, which allowed products to be gauged for market consistency. A dime-per-ton fee covered regulatory costs. Brands that counterfeited the name "Coosaw Rock" or other local products were subject to confiscation and fines. Agents checked "all navigable rivers and streams containing phosphates, and the work of all persons or bodies corporate mining therein" to discourage untaxed shipments. The inspector received one percent of the royalty fee collected.[25]

Several river-mining companies relinquished their charters because of the greater administrative burdens associated with the 1878 Phosphate Act and reduced profits. Boatman's Mining and Phosphate Company closed its Beaufort River plant after paying only $5,166 in royalty fees over four years. The Palmetto Mining Company remitted $378 for its only year of operation. Other larger, more efficient operations saw opportunity despite the new regulations. The Beaufort and Port Royal Phosphate Company, known as Beaufort River Mining, staked out a claim in Parrott and Battery Creeks. After several years, the directors exchanged their exclusive grant for a general mining license. Their dredge, the *Oglethorpe*, plowed the lower Coosaw River. That company paid $83,797 in royalty fees between 1880 and 1896.[26]

Initially, a single Beaufort County phosphate miner, the Coosaw Company, was responsible for 90 percent of the state's royalty income. Ultimately, it would account for more than half of the state's total production tax, $600,998 between 1880 and 1896, compared to the statewide total of $1,191,843. But while the company's mines were all in Beaufort County, its investors were not. Coosaw's shareholders included members of several wealthy Charleston families. The Adger family owned almost a quarter of the stock. Other Carolinians controlled 20 percent, including the company's attorney, Edward McCrady, Jr., of Charleston (2 percent). The list included only two Beaufort residents, Duncan Wilson and George Waterhouse, who owned 3 percent each. Out-of-state partners held a significant number of shares, led by Alex Brown, a Maryland investment banker (10 percent). Residents of Massachusetts, New York, and England owned 6, 13, and 16 percent of the stock, respectively, for a total of 35 percent. Records indicate that a majority of the stock—57 percent—was held by the Adger family, Alex Brown, A. T. Smythe of Charleston, and C. C. Wyllie of London.[27]

[25] *Abstracts of Laws*, 5 (nos. 456 and 658).

[26] Ibid., 1-3 (no. 539).

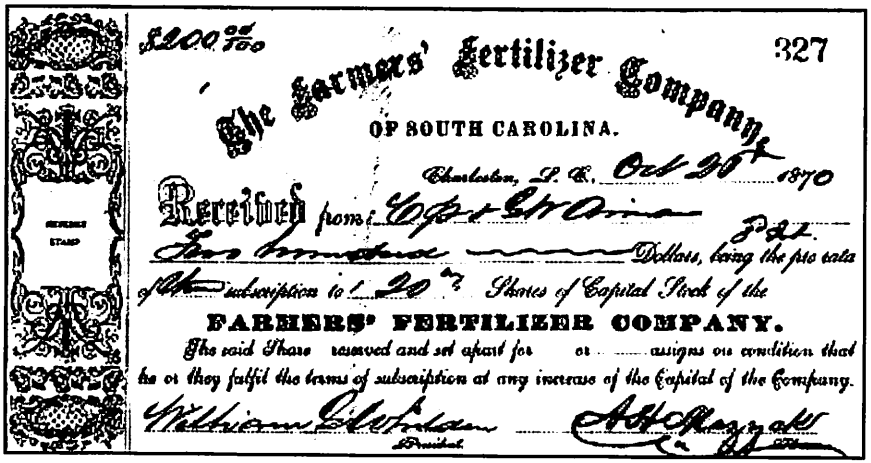
[27] Coosaw Company, James Adger and Company, Agents, Stock and Minute Book, SCHS; Shick and Doyle, "The South Carolina Phosphate Boom," 18.

The second largest Beaufort-area phosphate company was the Carolina Mining Company, locally known as the Brotherhood Mines, which has left remarkably detailed financial records. (This company should not be confused with George W. Williams's Carolina Fertilizer Company, headquartered in Charleston.) The Brotherhood Mines's parent, British Phosphate Mining Company, Ltd., managed by William Smith and Company of Bristol, England, was licensed to mine on November 6, 1885. Francis Brotherhood, a Bristol engineer who initially owned 60 percent of the company's stock, was pleased to receive the license after several other "similarly situated" foreign-based firms were allowed to operate. This marked a change in the state's preference for domestic companies. In addition to his initial capital of forty thousand pounds, Brotherhood borrowed ten thousand dollars from Manning, Maxwell and Moore of New York and constructed his Beaufort fertilizer plant across from the Port Royal Railroad terminal. After purchasing tugs, lighters, and cranes, he exceeded his budget and had to borrow another twelve thousand pounds to complete the project. The cost overruns were primarily attributable to expensive rock-washing apparatus. Interim lenders Poole and Hunt, Pregnall and Brothers, and Talbott and Sons were assured that they would be repaid as soon as the plant was fully operational. The company mined the Beaufort, Johnson, and Morgan Rivers as well as Parrott, Jenkins, Battery, and Brickyard Creeks. On May 1, 1886, Brotherhood leased additional equipment from an affiliate, the Bull River Phosphate Company, for a one-dollar-per-ton production fee, including the dredge *John Kennedy*, the largest in the industry.[28]

Brotherhood's company was immediately profitable after his plant became operational. According to corporate records, over eight years he paid $477,885 in production profits to his British investors, indicating a total revenue of almost $50 million.[29] Brotherhood's personal profits varied with expenses (mining costs averaged between three and four dollars per ton) and wholesale phosphate prices. For example, in 1893 his share decreased to $22,340, which computed to about seventy-five cents a ton. This was less

[28] Charles Thomas, Chairman, and Joseph Wethered, Director, William Smith and Company, Bristol [England], to Messrs. Manning, Maxwell, and Moore, New York, August 18, 1885, author's personal collection; charter of Carolina Mining Company, April 14, 1884, Mitchell and Smith Records, SCHS. Division of the fifty shares of stock ($100 par value) was as follows: in 1884 Francis Brotherhood, president, held thirty of the fifty shares, while secretary D. J. Gillen, S. J. Pregnall, C. S. Pitcher, and W. F. Folcover each owned five shares; in 1888 Brotherhood held forty shares, while Gillen and secretary-treasurer W. H. C. Delano each owned five shares; in 1892 Brotherhood held forty-five shares and Delano owned five. All correspondence by Francis Brotherhood is in the author's possession.

[29] Ledger sheet of royalty payments made by Carolina Mining Company, 1887-1894, in Mitchell and Smith Records, SCHS. Brotherhood's annual profit distributions to investors were: 1887, $55,172; 1888, $102,705; 1889, $150,844; 1890, $30,385; 1891, $27,888; 1892, $59,027; 1893, $34,639; and 1894, $17,225.



Farmers' Fertilizer Company of South Carolina receipt for stock-subscription payment, October 20, 1870. From the author's personal collection.

than his investors received that year. Another profit factor was the equipment and operating costs associated with the company's dredge, *John Kennedy*, which cost three hundred thousand dollars, and its two steam tugs, the 106-foot *Bristol* and seventy-foot *Kinkora*, which cost thirty and twelve thousand dollars, respectively.[30]

On October 25, 1886, Brotherhood acquired mining rights on Williman Island for thirty thousand pounds. Mortgage bankers Richard and John Martin of London financed the acquisition. On June 10, 1889, Brotherhood also purchased a concession on Chisolm Island.[31]

Of course, Brotherhood's mining rights were its most important asset, and the claims had to be closely guarded. During the 1880s, world phosphate prices fell after production exceeded demand, leading to increased competition in the rivers of Beaufort County. Brotherhood advised his agents to "watch them closely before it is too late," referring to the dredge of a local competitor, D. C. Wilson's Sea Island Chemical Company, working in the Bull River. Afraid that his exclusive territory was being en-

[30] Ibid.

[31] Conveyance of 1,592 acres, Bull River East, North Wimbee Creek, Williman Island, to Bull River Phosphate Company, Ltd., London, England, filed on October 25, 1886, in Beaufort County, Mitchell and Smith Records, SCHS.

croached upon, Brotherhood instructed his Charleston lawyer not to "approach the enemy until you see me or hear from me."[32]

Another British mining company, Hume Brothers, Ltd., was licensed in 1885. Its Battery Creek fertilizer factory was located three and a half miles south of the town of Beaufort. That facility had a deep-water dock, artesian well, tramway, storage, shops, offices, warehouses, acid chambers, and bagging sheds. Wilson's Sea Island Chemical Company had a similar facility next to the rail spur at Spanish Point. The Sea Island factory was valued at two hundred thousand dollars.[33]

Between 1868 and 1883, 2.3 million tons of phosphate were recovered from the land and rivers of South Carolina, and 43 percent of it came from the Coosaw River, which accounted for most of the state royalty fees. Beaufort's eleven river-mining companies by 1883 had invested $525,000 in plant equipment, excluding dredges and barges, and employed more than six hundred workers at an annual labor cost of a quarter-million dollars. Three-quarters of the local workforce were black. (Throughout the state, the entire phosphate and fertilizer industry employed 3,155 workers in 1880, with a combined annual payroll of $3 million.) Beaufort County's river-fertilizer companies, including Coosaw, Sea Island, Farmers', Brotherhood, and Hume, aggressively expanded operations through mid decade. State royalty revenue for river phosphates mined reached a high of more than two hundred thousand dollars in 1887 due to overproduction.[34]

After manufacturing capacity increased, labor shortages were common. Three hundred Italian miners were hired in 1889 by Charleston manufacturers. Pay soon exceeded the one-dollar-per-day industry standard. Convicts were leased from state prisons by Charleston companies. There is no evidence that river miners resorted to either foreign or convict labor.[35]

Increasing labor costs prompted mine owners to seek relief in 1884 from the legislature in the form of a royalty-tax rate reduction. Coosaw's president Robert Adger complained that the state's share of the mining profits was too "excessive and much larger than is usual in mining districts." He argued that when the market price dropped, the relief initiative failed and

[32] F. Brotherhood, Superintendent, Phosphate Mining Co., Ltd., Beaufort, to Messrs. Mitchell and Smith, Attorneys, Charleston, March 24, 1888, author's personal collection.

[33] *South Carolina in 1884.*

[34] Ibid; Rogers, *The Phosphate Deposits of South Carolina*, 217-218; Shick and Doyle, "The South Carolina Phosphate Boom," 11.

[35] *South Carolina in 1884.*

only the state profited. Prices below five dollars a ton resulted in losses to most mine owners.[36]

After the General Assembly failed to grant the requested royalty reduction, companies began a series of corporate reorganizations to reduce costs though consolidations. The Baldwin Fertilizer Company in Georgia bought out its competitor Hume Brothers, doing business as Port Royal Fertilizer. Headquarters moved from Savannah to Port Royal in 1888. Each was under the control of "capitalists of great reput[e] such as Rothchildes & Barrings," according to Francis Brotherhood in a letter (with his usual idiosyncratic spelling) to his attorney. Despite diminished profits, three modern, efficient fertilizer plants—Imperial, Royal, and Chicora—opened in Charleston. Other miners hedged their South Carolina investments by purchasing interests in the new Florida phosphate fields then being developed.[37]

Oak Point and Sea Island were merged with the Coosaw Company, and the surviving company became the target of the aspiring upcountry gubernatorial candidate Benjamin R. Tillman, of Edgefield. Tillman was convinced that the Charleston holding company virtually controlled the industry. In his opinion, the concentration of power represented all that was wrong with the state economy. He attacked the Charleston company, but in doing so, he doomed Beaufort County's largest employer.

After assuming office in January 1891, Governor Tillman took charge of the industry. He established a phosphate commission, with himself as chairman, which published new rules and regulations on February 24, 1891, that doubled the royalty rate from one dollar per ton to two dollars. All phosphates were "deemed the property of the State of South Carolina" until the royalty tax was paid. The Board of Phosphate Commissioners announced fifteen measures to correct other abuses. Among them, license holders could no longer "sublet" their river-mining rights to other companies; land-mining companies now owed a royalty for rock from riparian lands; "trafficking or bartering" in phosphates mined by others was forbidden; and the office of the phosphate inspector was relocated from Charleston to Beaufort, to be closer to the royalty-production region.[38]

Certainly, Robert Adger of the Coosaw Company bristled under Governor Tillman's attacks, but not all company owners shared his opinion. Francis Brotherhood was encouraged by Governor Tillman's war against his Charleston competitors: "If his whole legislature was composed of the same stuff," Brotherhood wrote to his attorney, "South Carolina could be

[36] Ibid.

[37] F. Brotherhood, Superintendent, Phosphate Mining Co., Ltd., Beaufort, to Messrs. Mitchell and Smith, Attorneys, Charleston, February 8, 1888, author's personal collection.

[38] Copy of license application in Mitchell and Smith Records, SCHS.

one of the best states in the Union for investments." He also confessed that he "slept last night the best sleep in 5 years and felt 10 years younger after reading Tillman's message." Nonetheless, Brotherhood privately advised his attorney to "harmoniously work with others to get the Royalty modified say to $1.50."[39]

Brotherhood received a permit in what was previously Coosaw's exclusive territory. Brotherhood's two "friendly competitors," Beaufort Mines and the Baldwin Company, were relicensed for general mining, as well. Charleston newspapers suggested that Governor Tillman had been duped by these "Anti-Coosaw" forces. One editor observed, "The Board of Phosphate Commissioners, unintentionally, of course, have [*sic*] exposed the cause of the English corporation [Brotherhood Mines] against the Coosaw, and the Englishmen have the advantage of conducting their fight not under the 'Union Jack' but under the protecting fold of the Palmetto flag." A battle over phosphates was in the making.[40]

The skirmishing began after phosphate inspector A. W. Jones was ordered by Governor Tillman to take control of the territory previously under exclusive control of the Coosaw Company. Ore was to be dredged by the inspector's team as proof that the state of South Carolina was now the rightful owner. On February 26, 1891, Coosaw president Robert Adger notified the state that it would be liable for any monetary losses his company sustained. The state did not back down. Shortly thereafter, the Coosaw Company furloughed most of its employees. The "Coosaw War" had begun.[41]

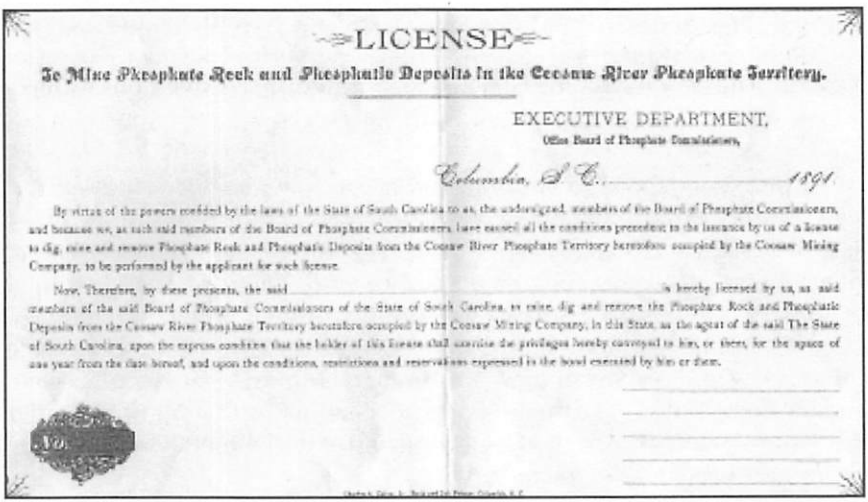
A Charleston newspaper reported the events as follows: "The ever watchful Inspector Jones wishing to be early at the seat of war and see what, if anything, the Coosaw people would do, went down to the disputed territory at midnight and by advice of counsel did a little phosphate digging in Coosaw himself opposite Brick Yard Creek." "Admiral" Jones, as the press nicknamed the inspector, was met by Coosaw superintendent Moses E. Lopez in the company tug *Ivanhoe*. Before making contact, Lopez fired two warning shorts into the air. Later, he presented his "protest against the entry and trespass" into the alleged company territory. The *Ivanhoe* then "circumnavigated the attacking squadron, and seeing the dredging continue left for Coosaw." Those watching from shore "expected something more than a protest to be presented when rock was actually dug." The government dredge worked all night.[42]

[39] F. Brotherhood, Superintendent, Phosphate Mining Co., Ltd., Beaufort, to M. Smith, Esq., Wright Hotel, Columbia, S.C., December 6, 1890, author's personal collection.

[40] *World* (Charleston, S.C.), March 2, 1891.

[41] Ibid., March 3, 1891.

[42] *News and Courier*, March 4, 1891.



LICENSE

To Mine Phosphate Rock and Phosphatic Deposits in the Coosaw River Phosphate Territory.

EXECUTIVE DEPARTMENT.

Office Board of Phosphate Commissioners,

Columbia, S. C., 1891.

By virtue of the powers confided by the laws of the State of South Carolina to us, the undersigned, members of the Board of Phosphate Commissioners, and because we, as such said members of the Board of Phosphate Commissioners, have caused all the conditions precedent to the issuance by us of a license to dig, mine and remove Phosphate Rock and Phosphatic Deposits from the Coosaw River Phosphate Territory heretofore occupied by the Coosaw Mining Company, to be performed by the applicant for such license.

Now, Therefore, by these presents, the said _____ is hereby licensed by us, as said members of the said Board of Phosphate Commissioners of the State of South Carolina, to mine, dig and remove the Phosphate Rock and Phosphatic Deposits from the Coosaw River Phosphate Territory heretofore occupied by the Coosaw Mining Company, in this State, as the agent of the said The State of South Carolina, upon the express condition that the holder of this license shall exercise the privileges hereby conveyed to him, or them, for the space of one year from the date hereof, and upon the conditions, restrictions and reservations expressed in the bond executed by him or them.

No.

Blank license "to Mine Phosphate Rock and Phosphoric Deposits in the Coosaw River Phosphate Territory," issued by the South Carolina Board of Phosphate Commissioners, 1891. From the collections of the South Carolina Historical Society, Charleston.

After the encounter, all Beaufort business came to a standstill, as locals realized that the town's prosperity could become a casualty of the war. A few dismissed such concerns, believing that the Charleston company had put "little money in circulation" and that "the employees usually shopped only at the company store." All agreed, however, that significant changes were in store for the industry.[43]

The state enjoined the Coosaw Company from "digging, mining, or removing such rock and deposits in the bed" from any river because its exclusive legislative license had expired. The company countersued for breach of contract. The case reached the state supreme court before the end of the summer, and the court held in favor of the governor on September 16, 1891, deciding that Coosaw's prior exclusive franchise had ended. The U. S. Supreme Court, on April 4, 1892, affirmed that decision and ruled that the Coosaw Company's exclusive rights were terminated.[44]

Beaufort's weekly newspaper, the *Palmetto Post*—which had described the Coosaw Company as an "Octopus ... or something equally entangling" in the manner that it had held down the phosphate industry—reported that

[43] Ibid.; *World*, March 4, 1891.

[44] *State of South Carolina v. Coosaw Mining Company*, 47 Fed. Rep. 225.

"a monied man of Charleston gave $30,000 to push" for the issuance of new rules and regulations by the Phosphate Board at the behest of Governor Tillman. The new regulations opened the formerly exclusive Coosaw territory to all qualified licensees.[45]

During the course of its litigation, the Coosaw Company tried to mine a marshland creek off St. Helena Sound on "the supposition that it was not a navigable stream." The Phosphate Commissioners, upon learning of the ploy, forced it to cease operations. Afterwards, South Carolina phosphate shipments fell from 108,288 tons to 62,114 tons. The "Coosaw War" wound up costing the state sixty-eight thousand dollars in royalties.[46]

Following the Supreme Court decision, Coosaw filed for a general mining license, as its competitors had done. It also reorganized from its partnership form into a corporation. On November 5, 1892, the new stock subscription books were opened at the Charleston offices of James Adger and Company.[47] By that time, however, South Carolina had lost its phosphate edge to Florida producers. Florida rock was 80 percent pure, compared to only 60 percent for South Carolina, and Florida producers benefited from lower regulatory and production costs.

The final blow to the South Carolina industry came in 1893 when the deadliest hurricane ever to strike the United States came ashore at Beaufort on August 27, 1893. One newspaper account from the time described the scene: "Coosaw River and the Sea islands appeared as if a conflagration had swept the earth and destroyed or withered everything.... Not a living object could be seen, not a craft afloat, but here and there appeared a blackened crane or barnacle-covered bottom of a sunken dredge or wash boat." Preliminary losses for the region from the Savannah River to Charleston were estimated at $5 million (almost $98 million today). Most of the buildings and the fleet of the phosphate industry were wiped out. The dredge *John Kennedy* was lost, along with its captain and crew. When damages were tallied, five dredges, sixty-eight lighters, forty flat boats, and numbers of tugboats were destroyed. Only the largest dredge, the *John Kennedy*, was covered by insurance, but the owners elected not to replace it. Storm notices reached the phosphate mines too late to evacuate the workers, so they were left in the most vulnerable areas imaginable. Uncounted bodies were later found, but exact numbers were never reported. Worse, because of the isolation of the mines, relief did not arrive for some time, resulting in widespread hunger and disease. One historian places the number of African Americans who drowned in the storm or later died of injuries or starvation

[45] *Palmetto Post* (Port Royal, S.C.), April 2 and June 11, 1891.

[46] Ibid., November 10, 1891.

[47] J. E. Adger, Chief Manager, Coosaw Mining Company, Charleston, to the Estate of T. D. Jervey, October 31, 1892, Theodore Dehon Jervey Papers, SCHS.

at approximately three thousand. Afterward, most phosphate companies chose not to rebuild or reinvest in their South Carolina facilities.[48]

The industry leader, Coosaw, elected to wind down in 1897. It paid only five more dividends to its 283 shareholders. Previous to that, the partners had received $902,981 in profit distributions. In 1902 its "wrecked plant" in Beaufort was offered to the Central Mining Company, but the French conglomerate declined. The Virginia-Carolina Chemical Company in 1907 purchased part of Chisolm Island and Summerhouse Point. The last Coosaw asset disposed of was the shuttered Sea Island Chemical Company plant; a Savannah timber company bought that property for four thousand dollars. After the Coosaw Company, once the giant of South Carolina river mining, made its last liquidating distribution of $97,010.14 in 1913, its Bank of Charleston account was reduced to only $8.59.[49]

Central Mining Company of France purchased Farmers' Fertilizer's storm-damaged plant on Lucy Creek in 1896. Farmers' was the last operating river-phosphate plant in the Beaufort region. Superintendent J. M. Lawton was hired by Baldwin Mines in Charleston.[50]

Francis Brotherhood's company went into receivership in 1896. After posting a fiduciary bond, Brotherhood became the court-supervised trustee. He moved to Baltimore during the liquidation. The process was distasteful to him, as evidenced by a letter in which he complained that he would be "right glad when the whole matter is closed out." On August 7, 1899, a special master conducted a public auction of his remaining properties, including wharves, warehouse, overhead railroad trestles, and about twelve acres of the old Cedar Grove and Smith Plantations on Port Royal Island. All were auctioned for twenty-five hundred dollars cash. The court approved a final liquidating dividend of one thousand pounds to the British holders of 6 percent debenture bonds.[51]

By 1904 the Beaufort County phosphate industry was almost dead. A few factories remained open, but prices continued to fall from seven dollars a ton to a low of $2.75. An emergency reduction in the royalty rate from two

[48] Shick and Doyle, "The South Carolina Phosphate Boom," 20-23; Bill Marscher and Fran Marscher, *The Great Sea Island Storm of 1893* (Lincoln, Neb.: Author's Choice Press, 2001), 78-79; Walter J. Fraser, Jr., *Lowcountry Hurricanes: Three Centuries of Storms at Sea and Ashore* (Athens: University of Georgia Press, 2006), 173-174, 177, 183-184.

[49] Mappus, "The Phosphate Industry of South Carolina," 61-63; Coosaw Company, James Adger and Company, Agents, Stock and Minute Book, SCHS.

[50] *Palmetto Post*, May 13, 1886, March 26 and November 5, 1896.

[51] Broadside of "Sale under U.S. Circuit Court for District of South Carolina by D. B. Gilliland, Special Master," *Alfred Brotherhood v. The Phosphate Mining Company, Limited, et al., Dated 27th Day of May 1899, in the Town of Beaufort*, author's personal collection.

dollars a ton to fifty cents in 1905 came too late to help. Whereas the state provided 95 percent of all American phosphate in 1889, its share had fallen to less than 20 percent in 1900.[52]

In 1906 a group of speculators acquired some of Brotherhood's properties. With cash reserves of twenty-five thousand dollars, the new corporation—which went by the same name as the Brotherhood Mines, Carolina Mining Company—had four investors: Charles S. Bryan (33 percent), Henry A. M. Smith (33 percent), W. B. Chisolm (32 percent), and D. G. Dwight (2 percent). Brotherhood's phosphate holdings in Polk County, Florida, were its most valuable resource. Within two years the Florida property was sold for a profit of $186,000, and on April 13, 1908, the second Carolina Mining Company was dissolved.[53]

The Virginia-Carolina Chemical Company purchased most of the customer lists from liquidating southern fertilizer companies and retained many of their old trade names. Virginia-Carolina also acquired the phosphate beds on Chisolm and Williman Islands. Under the company's direction, the old mill at Summerhouse Point was refurbished and workers resided in eight new dormitory buildings. In 1901 the company asked the U.S. Navy to clear Port Royal's harbor for barge traffic. However, the U.S. Army Corps of Engineers concluded that "the present and prospective commerce of Beaufort and of the Virginia-Carolina Chemical Company's Port Royal Work [was] not sufficient to warrant the expenditure." That same year, the official decision was made to relocate the Port Royal Naval Shipyard to Charleston. The commercial prospects for the port of Beaufort were doomed after that.[54]

The Virginia-Carolina Company was left in control of the southern phosphate market, but several years later, President Theodore Roosevelt, through the Interstate Commerce Commission, broke up its cartel for price fixing. Phosphate companies responded by establishing an industry-wide pricing arrangement in 1909 through the Southern Fertilizer Association.[55]

In 1909 only the old Pacific Guano site on Chisolm Island was still being mined. The ore was transported by schooner to Virginia-Carolina's fertilizer plants in Richmond, Norfolk, and Baltimore. South Carolina commissioner of agriculture E. J. Watson in 1913 proposed that the state purchase the old Central Phosphate Company for a "small sum" and reopen the facility using convict labor. A further fall in phosphate prices doomed that

[52] Shick and Doyle, "The South Carolina Phosphate Boom," 20.

[53] Corporate Records of the Carolina Mining Company, Mitchell and Smith Records, SCHS.

[54] *Report of Secretary of War Submitted to House of Representatives, Committee on Rivers and Harbors* (April 7, 1903), 58th Cong., 2d sess., H. Doc. 199.

[55] Shick and Doyle, "The South Carolina Phosphate Boom," 27-29.

Table 2: Production of Marketed Phosphate Rock in South Carolina, 1867–1912, in Long Tons

Year	Land Rock	River Rock	Total	Year	Land Rock	River Rock	Total
1867	6	—	6	1890	353,757	110,241	463,998
1868	12,262	—	12,262	1891	344,978	130,528	475,506
1869	31,958	—	31,958	1892	243,653	150,575	394,228
1870	63,252	1,989	65,241	1893	308,435	194,129	502,564
1871	56,533	17,655	74,188	1894	307,305	142,803	450,108
1872	36,258	22,502	58,760	1895	270,560	161,415	431,975
1873	33,426	45,777	79,203	1896	267,072	135,351	402,423
1874	51,624	57,716	109,340	1897	267,380	90,900	358,280
1875	54,821	67,969	122,790	1898	298,610	101,274	399,884
1876	50,566	81,912	132,478	1899	223,949	132,701	356,650
1877	36,431	126,569	163,000	1900	266,186	62,987	329,173
1878	112,622	97,700	210,322	1901	225,189	95,992	321,181
1879	100,779	98,586	199,365	1902	245,243	68,122	313,365
1880	125,601	65,162	190,763	1903	233,540	25,000	258,540
1881	142,193	124,541	266,734	1904	258,806	12,000	270,806
1882	191,305	140,772	332,077	1905	234,676	35,549	270,225
1883	219,202	159,178	378,380	1906	190,180	33,495	223,675
1884	250,297	181,482	431,779	1907	228,354	28,867	257,221
1885	225,913	169,490	395,403	1908	192,263	33,232	225,495
1885	149,400	128,389	277,789	1909	201,254	6,700	207,954
1886	253,484	177,065	430,549	1910	179,659	0	179,659
1887	261,658	218,900	480,558	1911	169,156	0	169,156
1888	290,689	157,878	448,567	1912	131,490	0	131,490
1889	329,543	212,102	541,645		8,721,518	4,105,195	12,826,713

Note: Until 1885, years ended on May 31. Thereafter, they ended on December 31.
Source: Rogers, *The Phosphate Deposits of South Carolina*, 219.

plan before it could clear the General Assembly, however. By 1926 all South Carolina phosphate companies had closed their factories.[56]

[56] *Beaufort Gazette* (Beaufort, S.C.), July 2, 1908, January 17, 1913.

For a decade, no mining of phosphate took place in South Carolina. But the dream of phosphate fortunes in the state was hard to quell, and for many years, investors and political figures investigated the possibilities.

On March 28, 1936, the state comptroller general called to session the dormant Board of Phosphate Commissioners to consider a new application. The General Assembly reduced the phosphate royalty to a nickel per ton to encourage manufacturing jobs for unemployed, Depression-era workers. William W. Elliott of Beaufort courted the General Phosphate Company of Boston to build a half-million-dollar plant. After a short flurry of activity, the company tested production, paid only five dollars in royalty fees, and decided not to pursue the opportunity further.[57]

Interest in the Coosaw River phosphate beds rekindled during the Cold War. In 1955 several lowcountry entrepreneurs organized the Beaufort Mining and Development Company. Capitalized at ninety thousand dollars, the company was granted the right to survey, mine, and process phosphates and other minerals. Scientists had found traces of uranium, but exploration for oil, gas, and sulphur was excluded from the company's charter. The royalty fee was pegged at 2 percent of production. The ten-year state lease expired before any appreciable production was achieved.[58]

Phosphate matters were calm for another half century. In 2004 federal officials expressed shock that "higher than normal" levels of arsenic and lead were present around the old Spanish Point fertilizer plant, last operated by Virginia-Carolina Chemical. Local health officials assured the public that the toxins had not leached into the river. Three other old factory sites were tested, but no dangerous levels were found.[59]

Phosphates no longer factor in the economy of Beaufort County. Yet between 1867 and 1912, more than twelve million tons of phosphate rock were mined in South Carolina, slightly less than one-third of that from river-based companies. The vast majority of the total came from Beaufort County.[60]

Why did the industry decline and die? Some modern commentators blame the companies for failing to integrate their business during its

[57] *Beaufort Gazette*, April 2 and 9, 1936.

[58] "Beaufort Mining and Development Company [Prospectus], May 1, 1957, Revised September 30, 1957," Beaufort District Collection, Beaufort County Public Library, Beaufort, S.C. The officers and directors of the company were: E. Burton Rodgers, state senator from Beaufort County, president and chairman of the board of directors; J. E. McTeer, sheriff of Beaufort County, vice-president; John P. Economy, Beaufort, treasurer; Richard G. Pollitzer, Beaufort, secretary; Joab M. Dowling, Beaufort, attorney; John C. Calhoun, Beaufort; J. Ross Hanahan, Sr., Planters Fertilizer and Phosphate Company, Charleston; John M. Trask, Beaufort; and E. M. Rodgers, Beaufort.

[59] *Beaufort Gazette*, February 5, 2004.

[60] Chazal, *The Century in Phosphates and Fertilizers*, 71.

heyday. However, Pacific Guano, Brotherhood, and Farmers' did fully integrate their mining and fertilizer operations, establishing both retail and wholesale divisions. Another criticism made by historians against the industry is that mining profits benefited only "anonymous northern financiers." Yet up to half of the investors in the river industry resided in the state. In reality, ninety percent of the gross river revenue was paid out for operating expenses and taxes. Investors from Boston (Pacific Guano), New York (Sardy's), France (Central Mining), and England (Brotherhood) were all paid dividends during their profitable years, yet in the end, all investments were lost. The commentators suggest that the industry sustained the "old planter economy." However, the "planter class and its urban allies, the cotton factors and merchants," were never the primary beneficiaries of the "prosperity brought by the phosphate boom." The only company organized by planters was Farmers' Fertilizer. Phosphate owners were usually engineers and bankers, not cotton growers. The challenges faced by the phosphate companies in South Carolina had little to do with southern business traditions or their operating model, but were more basic. The infant industry suffered from overregulation, excess capacity, market competition, and natural disaster. Such risks and losses are common to growth industries. The market changed, but management's plan did not.[61]

Deposits of the formerly world-famous Coosaw Rock still lie beneath the surface of the earth. The gorged trenches where scoops once dug are still visible. Perhaps production in Beaufort County someday may return. If it does, no doubt new technologies will be less harmful to the environment. And one hopes that the next "Millions in Phosphates" will be charged with less political spoilage and legal waste than the last.

[61] Shick and Doyle, "The South Carolina Phosphate Boom," 27-31.