A Forgotten Robinson Gold Dredge at the Portis Mine: Diminishing Returns, Flimflam, and Bankruptcy at the End of North Carolina's Gold Rush

By
James P. Delgado

The North Carolina gold rush and its resultant mining industry, like its counterparts elsewhere in North America, extended past its nineteenth century origins well into the first half of the twentieth century. Gold "mining" evolved from placer to hard rock mining. It then shifted to hydraulic mining, the high-pressure blasting of placer deposits with water. While aspects of earlier times and approaches were retained, the introduction of large dredges that cut into the alluvial deposits, floating in ponds that they excavated as they worked, reflected the realities of an industry that evolved in response to diminishing returns. The wooden hull of an abandoned dredge in Nash County, stripped of its machinery and buried in the mud once roiled by its machinations in search of gold, is one of many reminders of the North Carolina gold rushes.

In 2013, Nash County father and son Timothy and Ross Fisher bought fourteen acres of riverine swampland in a scrub forest on what had once been the site of the Portis Gold Mine in nearby Franklin County, just off North Carolina Highway 561. Prospectors for left-over gold and fossils, they were intrigued when pieces of wood and steel emerged from the stagnant, shallow pond that covered the property as a drought dried the region. Digging into their property, they discovered the intact hull of the Portis Dredge just a few feet beneath the surface. Following consultation with the U.S. Army Corps of Engineers and the North Carolina Division of Archives and History, they proceeded to clear the dredge's hull to share it with visitors.

Cleared of the mud that once buried it, the dredge is both an archaeological site (31NS206) and a visitor attraction nestled in the heart of a vast historic district that bears the traces of the century of gold mining

that once dominated North Carolina's—and for a while, the nation's—attention.

The archaeological remains of the Portis Dredge consist of the silt-buried remains of the heavily timbered wooden hull, and associated debris from the lightly built wood-frame superstructure that sheltered its machinery. This dredge was a connected-bucket, also known as a bucket-ladder, dredge, "the most complex, expensive and efficient of the larger dredge family" employed in gold mining throughout the United States and internationally in the late nineteenth and early twentieth centuries.[1] This type of dredge was aptly and simply described as "a floating hull with a superstructure, a digging ladder, endless chain of digging buckets, screening apparatus, gold-saving devices, pipes and stacker. It could be described as a floating mill with the addition of apparatus for excavating and elevating the ore."[2]

Held in place by steel spuds that allowed the dredge to pivot and move as it worked, the principal investment in a gold dredge was its machinery and equipment. The hull and the surrounding superstructure were temporary and expendable; "wooden hulls were beautifully built, at first by trained shipbuilders," but they had "a life expectancy of ten years, barring dry rot."[3] Isolated dredges in remote areas utilized steam or internal combustion for power, but "because of its cheapness and the versatility of variable speed motors, electricity was the preferred source of power, either by individual generating plants or by purchase from local utility companies."[4]

The Robinson Dredge

The Portis Dredge is one of several surviving vestiges of the work of one-time internationally renowned civil engineer Arthur Wells Robinson (1861-1929), professionally known as A. W. Robinson, who patented his close-connected steel bucket dredge in September 1902 as U.S. Patent 708,587.[5] A leading figure in late nineteenth and early twentieth century civil engineering, the Canadian-born Robinson, based in Montreal, was internationally known, working in Canada and the United States.

A major portion of his career was fourteen years working as the designer and managing engineer for the Bucyrus Company of Milwaukee. There, Robinson designed the American steam shovel and dipper and hydraulic dredges. He also served as a consultant for various governments. By 1922, Robinson had designed and built over three hundred dredges.[6] His illustrated treatise on dredges was a standard reference of the time. Robinson designed his dredges "to simplify the construction of working parts and reduce their weight without impairing their durability." [7] A detailed description of his dredge, which was built to a standard design, was provided in a 1906 article in *Engineering*, which drew from an article by Robinson in *The Mining World* (Figure 1).

The dredge's wooden hull "measures 94 ft. by 32 ft. by 7 ft. It is very strongly built, and the well sides are carried aft the whole length of the boat to form bulkheads." The well was a wide "notch" centered in the hull that the ladder, which held the dredging buckets, passed through to work. The hull was reinforced with steel hog-rods "forming two fore and aft trusses," a style of construction pioneered in wooden river steamboats that allowed a wooden hull to flex but maintain structural integrity. "The ladder frame is of steel, and long enough to dredge in 30 ft. of water."[8] The article in *Engineering* also described the dredge's equipment in detail:

> The buckets are of Robinson's improved close-connected type, of 3 cubic feet capacity each. The back of each bucket is of cast steel, the pins are 3 in. in diameter, of steel, and the bushings are of manganese steel.... The lower tumbler shaft is of hammered steel, and runs in enclosed bearings in the end of the ladder-frame.... The upper tumbler is of cast steel, five-sided, and is fitted with Robinson's patent driv-

ne 16, 1906. THE MINING WORLD

Progress in the Leading Manufacturing Industries

The Mining World invites manufacturers of machinery and supplies to forward their latest catalogues, as well as news items of sales and illustrated descriptions of new inventions or improvements. There will be no charge for publicity on this page.

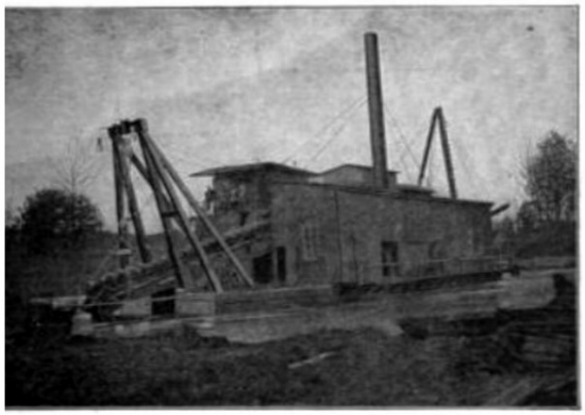
A New Gold Dredge.

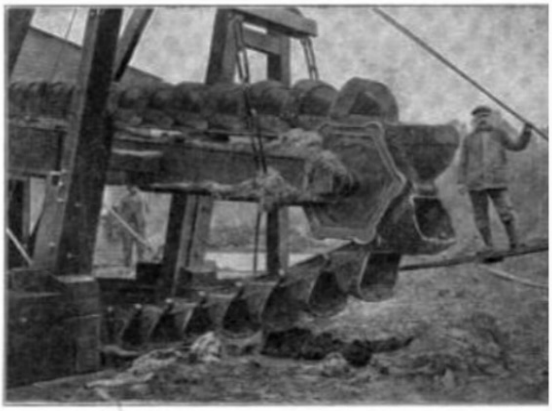
BY A. W. ROBINSON.

The elevator type was soon recognized as the ost successful for gold dredging. Subsequently e New Zealand dredge was introduced; this iffered from the American type in having moor- g lines instead of spuds and a fine screen and ibles covered with fine riffles or fiber for saving e gold, instead of the sluice box. In New Zea- nd, the gold is fine and the ground comparatively soft and alluvial, hence the early dredges ere too light and too cheaply constructed to be cent actual working time during the trial period of 30 days. The delays, amounting to 24 per cent of the time, included adjusting the new machinery and correcting small defects. It is expected that in regular work much better time will be made.

The dredge illustrated herewith is on the property of the Gold Bond Dredging company, J. B. Austin, president, at Ransom's Bridge, North Carolina. It is working an alluvial flat forming the bottom of a low valley through which runs a small brook which supplies the pond. The ground is covered with heavy pine timber suitsmoothly at a speed of 24 per minute, whi equivalent to buckets of six cubic feet capaci the open-connected type running 12 per mi The buckets discharge through a steel h into the revolving screen which is 4 feet 6 i by 16 feet long. This screen is made of changeable perforated plates on a steel fram that the plates may be replaced without t down the screen.

The head frame and driving gear for the ets and screen are strong and simple, there only two working shafts and four bearings i entire machinery, including the tumbler screen drives. The two shafts are the tumbler shaft and the secondary or pinion The principal gearing is of steel, and a rimmed pulley of large diameter on the e the pinion shaft is directly belted to the engines on deck. The revolving screen is d from the secondary shaft, which passes di





Robinson Dredge used by the Gold Bond Dredging Company.

rviceable. Subsequently the two types were rengthened and improved until they have be- me of such great size and weight in parts that e cost has been greatly increased. Durability d cost of repairs are still far from satisfactory the average dredge as shown by the 1905 re- rt of the state mineralogist of California, in hich it appears that the cost of repairs fre- ently amounts to 50 per cent of the whole perating expense. Three dredges working to- ether showed average operating costs for 1903 n cents per cubic yard) as follows:

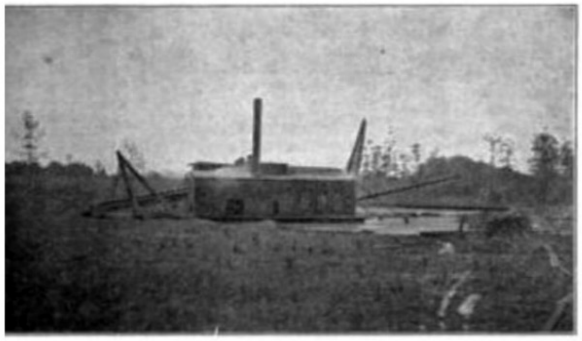
redge crew, power and supplies	$2.52
epairs, labor	.48
epairs, supplies	2.58
perintendence	.16
neral expense	.15
axes and insurance	.24

able for fuel for the dredge, which roots up the stumps readily. Gold is found in paying quantity.

The hull of the dredge is wood 94 feet by 32 feet by 7 feet; it is strongly built and the well sides are carried aft the whole length of the boat to form bulkheads. There are also steel hog-rods forming two fore and aft trusses. The ladder frame is of steel and long enough to dredge in 30 feet of water. The buckets are the writer's patent improved close-connected type, each of three cubic feet capacity. The back of the bucket is cast steel; the steel pins are three inches in diameter, and the bushings of manganese steel, are specially made to slip in or out of recesses shaped to a half circle so they can be readily renewed. The lower tumbler shaft is above it. On the screen is a cast steel spur of two-inch pitch and six-inch face which flange or roller path attached to it. The s is mounted on adjustable steel rollers runni dirt-protected bearings. An adjustable fr clutch is provided at the main pinion, whic slip in case of sudden strain, but the bolt t mission also furnishes this safeguard.

The main engines, of vertical marine type of 50 h.p., are double cylinder, high pre as wood fuel costs only $1.00 per cord. For g er economy of steam these engines can be compound condensing. The engines are ha entirely by the operator on the upper deck.

The winch is on the main deck directly the operator, so that the levers can be c niently placed. The winch has six drums,



Robinson Gold Dredge in North Carolina.

In the new dredge, designed by the writer, and uilt by the Atlantic Equipment company of New ork, the aim has been to simplify the construc- on of working parts and reduce their weight ithout impairing their durability. Wherever ssible, high grade steel has been used in pref- ence to cast iron. Consequently the dredge is ght, strong, easily handled, economical to trans- rt and erect, and will need but light repairs. his dredge made the remarkable run of 76 per hammered steel and runs on hidden bearings in the end of the ladder frame; these bearings have renewable bushings. The upper tumbler is five-sided and of cast steel, fitted with the writer's patent driving faces, by which the driving power of the tumbler is applied directly under the center of the bucket pins instead of the usual overhang due to the links working on the polygonal faces. Thus the strain and wear on buckets and tumblers is greatly reduced. The buckets run with independent friction clutch and brake, n ly, one headline, one ladder hoist, two for side lines, and two after side lines. By n of these steel wire-rope lines the position feed of the dredge is under perfect control.

Water for the screen and tables is furn by an independent centrifugal pump with 10 discharge and has an engine directly connect

Steam is furnished by one 125 h.p. boil the Worthington water-tube type, espe

> ing faces.... The buckets run smoothly at a speed of 24 per minute.... The buckets discharge through a steel hopper into the revolving screen, which is 4 ft. 6 in. in diameter by 16 ft. long. The screen is made with interchangeable perforated plates on a steel frame.[9]

The placer material from the rotating screen was deposited on "gold-saving tables ... arranged on both sides of the after deck under a distributing box of special design, by means of which the wash from the entire length of the screen is mixed and distributed uniformly to the tables.... The system of tables adopted in this dredger is a flexible one that can be adopted to any material, and any kind of riffle." The spoil, or "coarse tailings" were carried off and deposited behind the dredge by a 70-foot-long stacker "of the rubber-belt type, driven by an independent engine. The belt is 30 in. wide, and the end of the conveyor is 25 ft. high above the water-level."[10]

The Portis Dredge was steam-powered;

> the main engines are of 30 horse-power, of vertical marine type. In this case they have two high-pressure cylinders for the sake of simplicity, as wood fuel costs only the labour of cutting it—about 1 dollar per cord .... The main engines are handled entirely by the operator on the upper deck. Here he has a full view of his work, and can see the buckets for their whole length, and the tailing conveyer as well.

A six-drum winch on the main deck, with individual friction clutches and brakes on each drum, controlled the dredge with steel-wire cable that allowed the operator to control the "position and feed of the dredger." Steam was provided "by one boiler of the Worthington water-tube type, of 125 horsepower. It is especially adapted for burning inferior wood, as the fire-box is large and roomy" to burn "green pine wood." [11]

Figure 1: The only known views of the dredge in operation in Nash County were published in Mining World *by A. W. Robinson, who designed this style of dredge, in 1906.*

The article confirms that the basic design of the Robinson gold dredge, while "unique," was essentially the same as other dredges employed throughout North America and abroad; the buckets dug into the gravel beds, depositing the material into the rotating screen or "trommel," with the gold-bearing sediment falling through the perforations onto sorting tables that were slaked with mercury, which was retorted to extract the amalgamated gold. "In operation the entire dredge is easily controlled and works smoothly and well. The load of all the parts is well balanced on the hull, so that it sits level at a uniform draught of 3 ft." [12]

The Portis Dredge

The Portis Dredge operated, perhaps with interruptions, from 1906 to early 1913. It is possible that it operated into 1914; a 1918 Federal report on gold dredges in the United States notes small returns from gold dredges in North Carolina (along with other states) in 1905, 1911, 1912, and 1914.[13] While there is no final account known of its demise, the likely end of the dredge came with a bankruptcy sale in early 1913. The dredge's machinery was its most valuable asset, as it was capable of reuse. In 1918, it was noted that in the gold dredging community,

> a matter of considerable interest at present is the moving of machinery from dredges that have worked out the areas for which they were built or have been dismantled and replaced by other dredges. Areas that a few years ago were deemed too small for profitable dredging are being considered

> on the basis of modern practice and with the idea of reconstructing a used dredge. The machinery of some of these dredges that have been or are to be dismantled is in good condition and fit for many years of service; and on properties not too difficult of access it can be refitted to new hulls and practically new dredges built, in some instances at less than 50 per cent of the original cost.[14]

Archaeology of the Portis Dredge

The buried remains of the Portis Dredge were discovered in 2019 by Tim Fisher, owner of the property where the dredge had last worked and on which it had been abandoned. A thin layer of topsoil, some of it clearly dredge spoil and now overgrown with an immature pine forest, covers the buried hull. The curved form of the bow of the intact wooden hull was exposed. This exposed hull structure, which includes the two sides of the hull, consists of the transverse and longitudinal bulkheads inside the hull, which survive, along with the "well," an open notched area at the bow where the buckets descended into the water and earth to dredge.

A curve in the hull revealed by excavation is indicative of the more "boat-like" form of these dredges, which were generally not built on rectangular barges like other types of dredges (Figure 3). The exposed area of the hull is missing some of its thick plank decking, which would have been removed to detach the ladder of the dredge's bucket assembly (Figure 3). Thick beams fastened to the deck are mounts for some of the machinery that was removed when the dredge hull was stripped and abandoned.

A partial excavation revealed that not all of the steel had been removed; steel reinforcements of the corners of the well remain attached to the edges of the well (Figure 4). During the salvage process, the wood-framed sides of the superstructure were apparently toppled to each side of the dredge hull to facilitate removing the machinery (Figure 5). To remove the machinery from the dredge would have required dismantling the entire working area enclosed by the superstructure. The method of construction of the superstructure—as was common in most house and barn building

Figure 2: View of the half-exposed dredge from the starboard (right) side looking toward the port (left) side of the bow, 2021. (Author's photo.)

Figure 3: View of the exposed dredge in 2021 looking from the port side of the bow. (Author's photo.)

Figure 4: The central well, in which the head of the dredge once was located. All of the machinery was stripped from the dredge when it was abandoned after 1913. (Author's photo.)

Figure 5: The toppled wall of the dredge "barn" or superstructure that once covered the machinery, on the port side. The framing outlines a doorway. (Author's photo.)

of the late-nineteenth and early-twentieth centuries—was balloon-framing, or using dimensional lumber (i.e., 2 x 4- and 2 x 6-foot timbers of various lengths) fastened by nails and not joinery, as was typically done for earlier construction. The lightly-constructed balloon-framed superstructure could quickly be toppled, as sections of the walls were detached and dropped alongside the hull.

The 2019 excavation exposed approximately 25 percent of the upper remains of the dredge's barge hull. The entire hull of the Portis Dredge is intact from the deck level to the bottom of the hull, with most, if not all, of the interior bulkheads and a portion of the deck planking in place. All machinery (originally in place on the decking) had been removed. The large timbers are still fastened with steel drift pins with peened heads. However, the engineering and machinery features which defined the Robinson Gold Dredge, other than the barge hull, are no longer extant at the site, having likely been removed with the stripping of the dredge c. 1914.

Historical Context

Historian Fletcher Green divided the history of North Carolina's gold mining industry into five "sections" or periods: a) early efforts to find gold; b) the initial discovery in 1799 "and the gradual spread of the interest in the state down to the middle 1820s"; c) the "period of the great rush and the development and stabilization of the industry" to 1837; d) the period after the establishment of the U.S. Branch Mint at Charlotte to the California gold discovery of 1848; and e) "a revival of interest just prior to the Civil War."[15]

The southern gold rushes began with the first "authenticated discovery of gold in the United States" in North Carolina's eastern Mecklenburg (later Cabarrus) County.[16] Conrad Reed discovered a large nugget in Little Meadow Creek on his father John's farm, but the nature of the find was not apparent until a jeweler identified it in 1802.[17] John Reed began exploiting his farm for more gold, working with three partners and using enslaved labor to excavate Little Meadow Creek in search of more placer gold, an activity which continued for the next two decades on a "crude, part-time basis."[18] Reed and his partners opened a "vein mine" in 1831, digging pits and then shafts as deep as ninety feet to extract gold.[19] Following John Reed's death, his heirs continued to work the gold field "in a small, amateurish operation using obsolete equipment and outmoded hand and horsepower."[20]

The "Reed Gold Mine" yielded more than ten million dollars up to 1848.[21] The Reed fam-

ily lost the mine through bad management and debt in 1853, and it was taken over by New York speculators who operated it as the Reed Gold and Copper Mining Company, which mechanized and expanded the mines, driving deeper and farther until failing in 1854.[22] Sold to creditors, the mine, like others in the region, continued to "lure fortune seekers" to invest in "limited" and "sporadic" operations through the last decade of the nineteenth century, "but profits, if any, were insufficient to encourage resumption of full-scale development."[23]

Meanwhile, other placer operations had expanded from Reed's original location to some fifty-six "mines" in the vicinity by 1830, and then beyond in neighboring counties.[24] By 1820, gold finds had been made "in Cabarrus, Anson, Mecklenburg, Montgomery, and other western North Carolina counties."[25] These were followed in 1828-1829 by gold finds in Burke County, sparking another rush that saw mining peak by 1836 but persist for decades and last to the end of the century.[26] Initially worked as placer mines, the Burke County strike brought in as many as a thousand miners and stimulated the local, regional, and national economies.[27]

The California gold discovery "led to a noticeable decline of mining operations in North Carolina," as miners left for California where, with their experience, they "made valuable contributions to the development of Western mining and reaped rich harvests for themselves," albeit with some who failed to strike it rich "gradually trooped back to their old diggings."[28] California, however, not only drew off miners but also "probably inspired renewed enthusiasm" for North Carolina's gold.[29] This resulted, by 1853, in a major consolidation of claims into single ownership—The Gold Hill Mining Company—controlled by northern interests.[30]

Gold Hill was the "site of North Carolina's most productive gold mine."[31] Discovered in 1842, it was gradually developed by the mid-1850s, but revenues dropped in 1859 and 1860, and when "sources of capital investment did not emerge to stimulate the industry," Gold Hill "was forced into receivership in October, 1861."[32] This "marked the subsidence of gold mining as a major industry in North Carolina."[33]

North Carolina mines continued to operate through the end of the nineteenth century on a larger scale than mines in other southern states, but, as with mines elsewhere in the country, only through the introduction of larger-scale industrial practices and technologies that reduced labor costs. The twentieth century saw "commercial production of gold in North Carolina" follow "an erratic but downward slide until the last operation was to cease in 1964." This included a return to placer mining and sifting "through the old ore dumps" on Little Meadow Creek in 1911 or 1912, as well as placer mining and some hard-rock mining at the Reed Mine in 1934 during the Great Depression. However, "as the national economy recovered...this mining ceased."[34] Gold mining's reactivation during the Depression came after "there had been little or no gold mining in North Carolina since 1907 until this new interest was aroused in 1929."[35]

The same trends in gold mining were in play in the American West and in the Far North, all part of an ongoing evolution in the business and technology of mining that mirrored developments in forestry, agriculture, and fishing. Individuals and small companies were replaced by larger companies and corporations, individual labor was replaced by mechanization made possible by large-scale capital investment, and large-scale, environmentally destructive practices were employed to maximize returns with as little investment as possible.

The Portis gold dredge is associated with this last phase of industrial-scale gold mining in North Carolina. The area the dredge worked in was part of the Eastern Carolina Belt, whose "principal mines are situated in Warren, Halifax, Franklin and Nash counties, in an area covering about 300 square miles, and extending in a southwesterly di-

rection from a point near the Thomas mine, 1½ miles northeast of Ransom bridge, and across Tar River."[36]

An 1897 report indicated that the Portis mines had hardly been worked since "early in 1894" with "the only work of any consequence" being "surface sluicing and hydraulicking to a depth of 15 to 30 feet. Sufficient water supply and head are hard to obtain. It is stated that 1000 cubic yards, washed in one of the sluice lines, yielded 1018 pennyweights of gold, the loose vein-rock obtained in this mass assaying about $8 per ton."[37]

History of the Portis Dredge

The use of dredges to recover gold in North Carolina followed the same progression of mining technology as elsewhere in the United States. Placer and crude hard-rock mining gave way to hydraulic mining in the late 1850s, and then to dredging in the early twentieth century.[38] This was the final technological development in the centuries-long progress of American placer mining.[39] Ultimately, none proved successful in North Carolina.

> Due to the nature and distribution of the placer deposits in North Carolina, every method known has been used in an attempt to recover the gold from the placer materials. These methods included the hand panning, sluice boxes, rockers, hydraulicking, log washers, Snodgrass machines, trommels, centrifugal machines, and, in three instances, dredges. A great many of the processes used have been failures, due to the clayey nature of the deposits.[40]

The Portis Dredge was, therefore, one in a series of variably successful efforts to use a technology to extract maximum profit from a mine after the initial "rush."

The area the dredge worked is near an early "strike" or location known as the Portis Gold Mine, discovered as early as 1831 on the land of John Portis near the Ransom's Bridge Post Office.[41] Early placer mining was successful, and the Portis Mine was one of the best-producing mines in North Carolina up to the Civil War. Mining resumed after the war using more modern technologies such as hydraulic excavation, stamp mills, and various types of ore processors. Mining continued through the century and "even in the later 80's [*sic*] a large number of people were employed as tributors in working the gravels in the valleys and sluicing the decomposed formations on the hillsides."[42]

In 1893, the mine was noted as having been "successfully worked for nearly three quarters of a century, more than a million dollars having been taken from it," with "most of this large amount" having been "washed from the top soil and gravel beds underneath it at low cost. Stamp mills and other machinery for crushing the inexhaustible beds of quartz have been but recently introduced."[43] However, the mine closed the following year.

What was needed was an economical means of extracting the remaining gold from its quartz and thick clay matrix. The Portis Dredge, built in or about 1905 for a newly formed corporation, the Gold Bond Dredging Company, was seen as the likely solution. The Gold Bond Dredging Company was incorporated in Arizona with one million dollars in capital stock in August 1904.[44] The dredge was designed by Arthur Wells Robinson and built by the Atlantic Equipment Company of New York. A contemporary newspaper described Atlantic Equipment as a company that "deals in locomotives and other railroad rolling stock, contractors['] supplies, steam dredges, etc.[,] and is one of the biggest concerns of its kind in the world."[45]

Engineering magazine touted the dredge in 1906 as "a dredger that is light, strong, easily handled, economical to transport and erect, and that can be expected to do its work continuously and

with light repairs."[46] This was achieved by making the dredge smaller and using "high-grade steel, with as little cast iron as possible."[47] *Machinery Age* reported the same year that the dredge

> is at work in an alluvial flat forming the bottom of a low valley, and through which runs a small brook which would readily pass through an 8-in. pipe, and which keeps the pond supplied. The ground is covered with heavy pine timber, which, when cut, yields fuel for the dredger, and the stumps are readily dug out by the dredger itself. Gold is found in good-paying quantities, and is of varying degrees of fineness."[48]

Just after publication of the article in *Engineering*, the dredge and the mine changed hands. An article in the *Wilmington Dispatch* in December 1912 noted that W. S. Cook, a "Maine Yankee," had come to North Carolina in 1902, salted the mine, sought investors, formed the Gold Bond Dredging Company in Arizona, and then "his friends were placed in charge of the mine, modern machinery was brought [in] and bonds in the amount of $150,000 were issued to finance the project," while Cook "and his associates led a high life." Money was either "squandered ... or else placed in the pockets of the promoters" until creditors pressed for payment, and the company filed for bankruptcy, after which the property was sold and a new company formed with the remaining assets.[49]

The auction, in late 1906, sold the rights to the property, plus "a very valuable mining dredge, together with all tools, implements and appliances used in connection therewith, also one horse

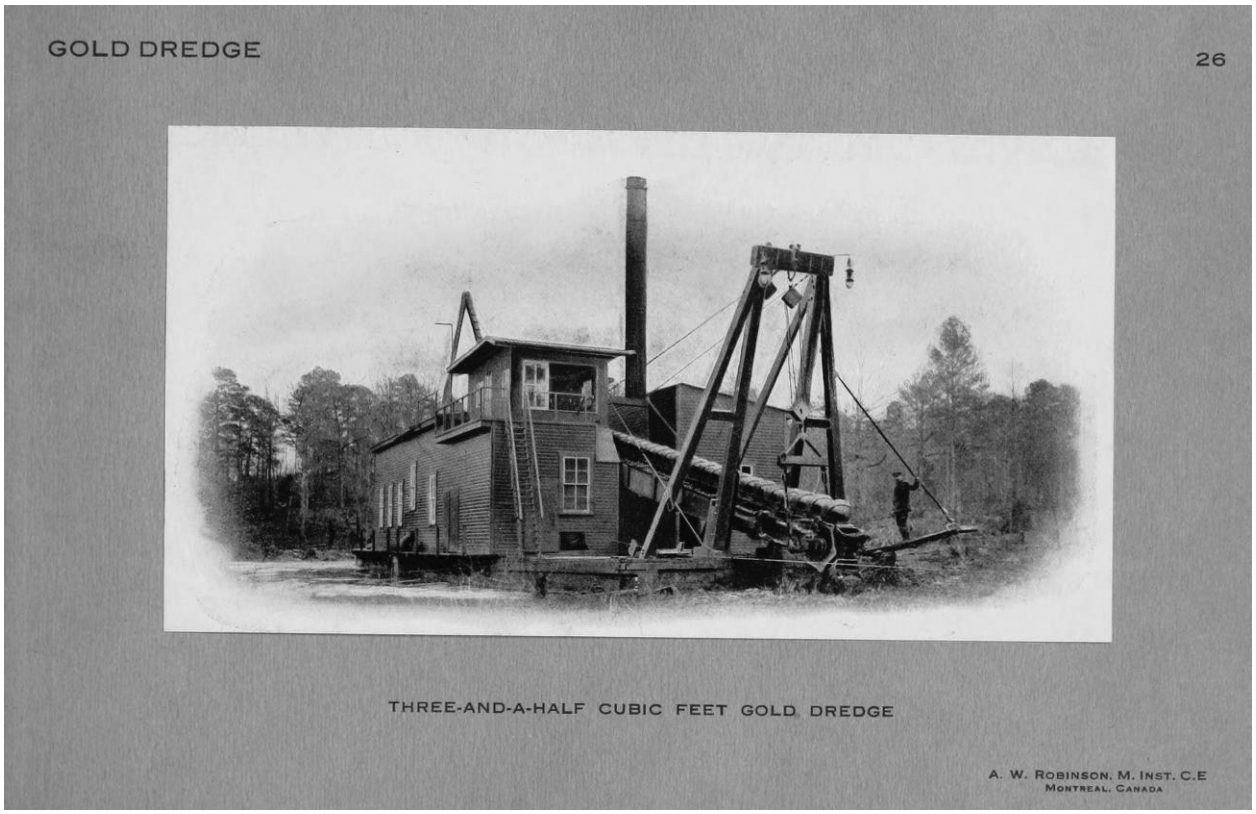


Figure 6: The North Carolina dredge at the Portis Mine, c. 1906. (From: A. W. Robinson, Typical Examples of Modern Dredging Machinery Selected from Recent Designs *(n.p., n.d.).)*

and one steer."[50] The purchasers, "stockholders of the first company in the hope of salvage," formed the North Carolina Dredging Company and returned to working the mine in 1907.[51] Meanwhile, criminal charges against the former officers and litigation continued into 1913, leading to another auction of the property and company assets that February.[52] The company and the dredge then dropped out of the news.

A 1936 review of North Carolina's mining industry noted, however, that while hydraulic "mechanical dredges were ... tried at the Portis Mine,"—specifically "Bucyrus-Erie placer dredge No. 97, with buckets of 3 cubic feet capacity, owned by the Uharie River Gold Mining and Dredging Company"—they "did not prove successful."[53] The dredge's failure to achieve the desired results, led to the 1936 assessment that "several processes have been attempted at this mine, but so far all have been complete failures."[54] The review continued:

> Various reasons have been given for the failures of these dredges. The older inhabitants of the above sections state that the companies were unable to secure sufficient properties, others state that the dredges were not able to handle the clayey materials. In such sections of the State, especially at the Portis and Parker mines, the abundance of plastic clays has made the recovery of the gold an impossibility. Several methods have been tried out unsuccessfully to disintegrate the clays. The clay is so tenacious that if trommels are used, the gold is so pulverized that it floats out in the clay slimes.[55]

Gold mining continued during the Depression, with the Norlina Mining Company of Lansing, Michigan—headed by Ransom Eli Olds of automobile manufacturing fame—acquiring "the Portis property along with the White House property which lies between the Portis and Fishing Creek." The company mined by using a dragline to gather ore, crushing it (probably in a stamp mill), and running it through a building-based trommel. A contemporary state report indicated the premise for success, stating that "development will probably show even greater activity than in former days. The chief difference, however, in the present development is the difference in the type of personnel operating the properties and the modern up-to-date methods of mining and milling the ore."[56]

An article in North Carolina's *Nashville Graphic* at the end of October 1935 noted that a "giant stamp mill will extract gold where hundreds of slaves panned a century ago," while "gluttonous dredges will bite deep into the soil for gold-laden quartz."[57] The new step in the process, however, was the large-scale stamp mill where the ore would be processed.

In July 1936, however, an article in the Hendersonville, North Carolina, *Times-News* noted that the Norlina Mining Company, a "non-stock syndicate of North Carolina and out-of-state men" had "worked this land for more than a year now. For each ton of earth that has been dug, they've only got two dollars' worth of gold," while "the plant, with its scientific riffles, stamps and smelting equipment, cost $75,000."[58] Two years earlier, a review of the area's history and characteristics had pointedly noted that "the hand of nature was not so lavish in dispensing mineral wealth as it was in distributing agricultural favors."[59]

The Norlina Mining Company ceased operation in 1937, the last operator in a line of failed technological solutions to a seemingly insoluble problem. Then the dredge—stripped, its machinery sold or scrapped, resting in the pit it had clawed out of the terrain—began gradually disappearing into the landscape as silt filled the pit.

The tell-tale mounds of the dredge's excavations, grown over by forest and scrub, blended into the landscape until more than a century later. The remains of the dredge reemerged as a history-minded owner of the property discovered

it, excavated it, and made plans to open the site as an historical attraction. While registered as an archaeological site, North Carolina's Office of Archives and History determined that the dredge's hull was ineligible for listing in the National Register of Historic Places. Resting, however, in a county with a long tradition of gold mining and multiple traces of that past, Nash County's Robinson Gold Dredge is part of a larger landscape and story that speaks to the enduring allure of, and never-ending quest for, gold.

James P. Delgado is a maritime archaeologist and historian specializing in nineteenth century ships and technology. Formerly the director of the maritime heritage programs of the National Park Service and the National Oceanic and Atmospheric Administration, he is the author of numerous books, articles, and reports. He recently conducted detailed evaluations of the Sumpter Gold Dredge in Oregon, and of the dredge featured in this article. His most recent book, with colleagues, is Clotilda: The History and Archaeology of the Last Slave Ship *(University of Alabama Press, 2023). His most recent article is "The Archaeology of the Gold Dredge: The Final Phase of Placer Mining" in the* Journal of Maritime Archaeology.

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