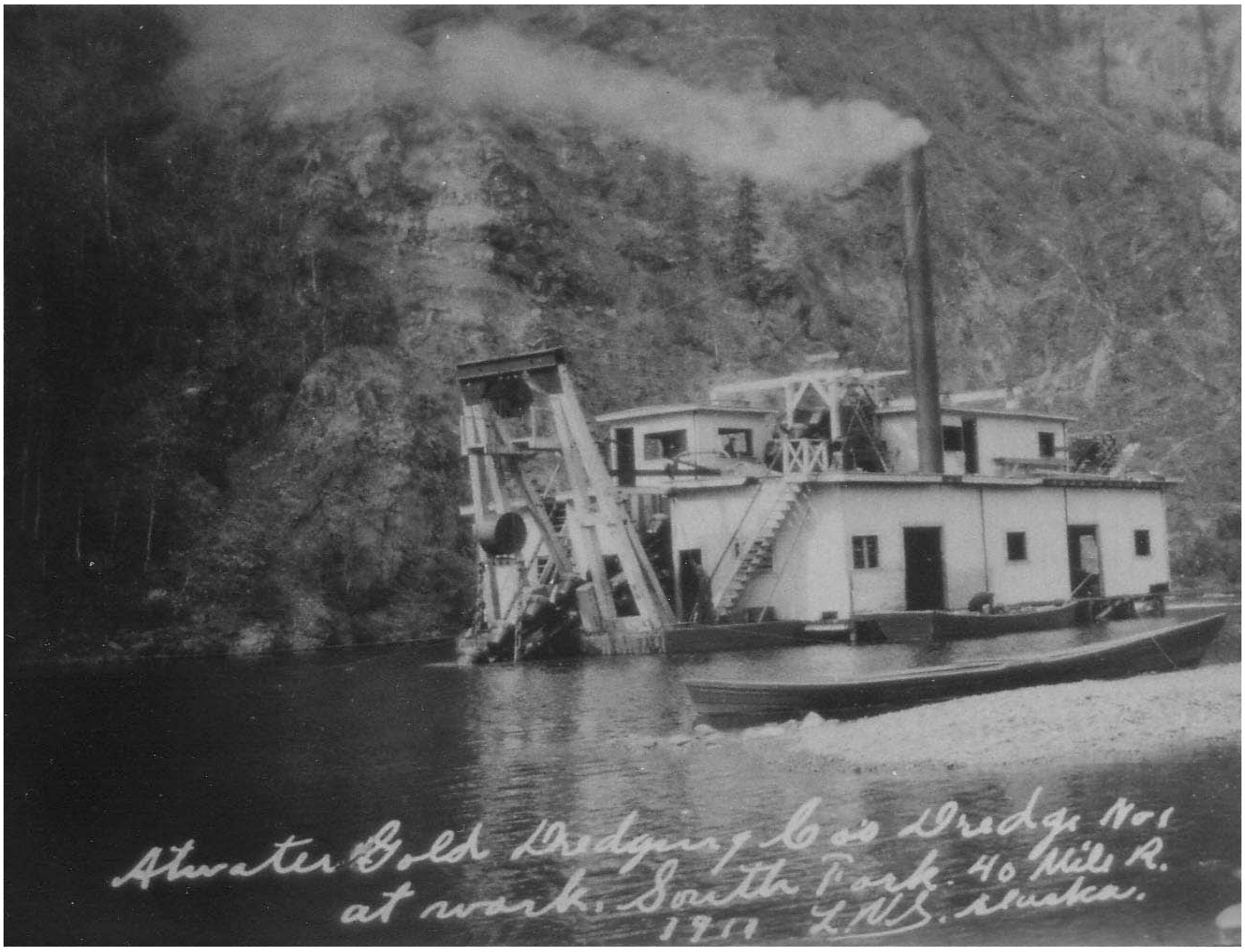
Information on Dredges on the Fortymile River and Associated Drainages

By

Michael Gates
2004



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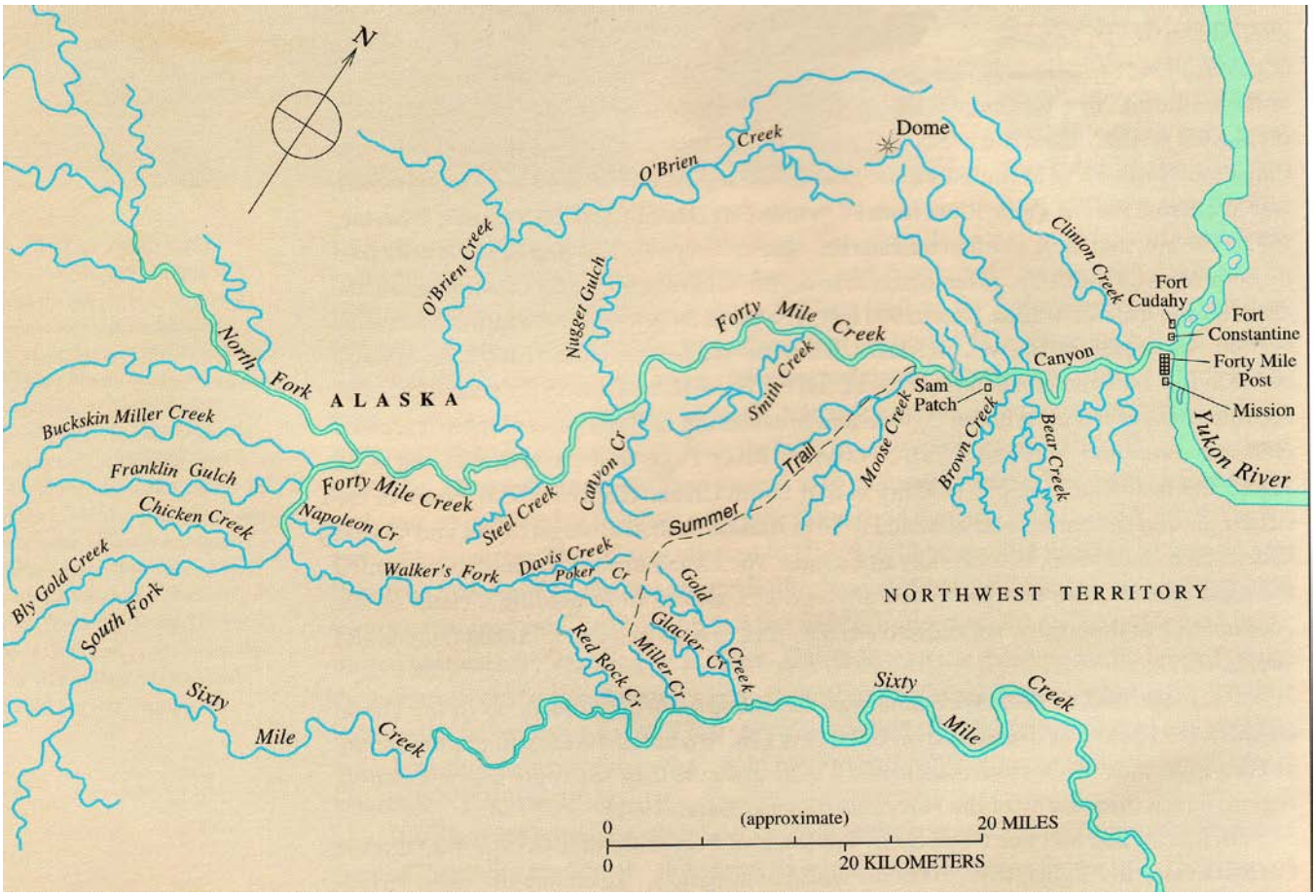


Map of the Fortymile district, adapted from Yeend, 1996

Introduction

I have travelled in the Sixtymile and Fortymile regions and on the Fortymile River on a number of occasions. The mining history for these areas is almost the oldest in the entire Yukon drainage, dating to before the Klondike gold rush. In addition to the evidence of modern cat mining and early steam and hand-powered mining, I encountered evidence of a number of dredges throughout the district. Reading the early mining reports proved confusing for me. There seemed to be numerous dredges; far more, in fact than the surviving evidence could support. Furthermore, there was evidence that the early dredges were disassembled and moved about the region. My question: how many dredges were there, and when and where did they mine?

Working with the Bureau of Land Management as a volunteer on a cultural resource management project in 2003 allowed me an opportunity to see some of the remains first hand. We were fortunate enough to locate the remains of the Atwater dredge camp depicted in one of the illustrations in this report. As well, lively discussion about the interpretation of what we were finding led me to investigate further some of the remains that we encountered. This led to the revelation that one of the dredges that mined the South Fork almost 100 years ago was an anomalous specimen (The “Little Dipper” dredge) unlike the bucket line dredges that are so common in the northern gold fields.

I pursued this avenue of investigation over the subsequent year, the purpose being to answer two basic questions that might be useful in cultural resource management: How many dredges were there, and where did they operate?

Relying primarily on government geological reports, I have compiled information about the various dredges that operated in the Sixtymile and Fortymile regions. This work is not complete. What follows is an interpretation of what I learned. I hope that this will stimulate more lively discussion and lead to an even more complete and accurate history of the Dredges of the Fortymile.

The Atwater/Russell King/Mulvane Dredge

Atwater Dredge

According to Mertie (1938:187):

> "Another dredge which is on the record in this area is the so-called Atwater dredge. The writer does not know when or where this dredge was installed, but it is a matter of record that it passed the mouth of Buckskin Creek, working up the South Fork of the Fortymile River in 1912, and that it continued to operate upstream on the South Fork in 1913. *It is possible that the designations 'Mulvane' and 'Atwater' refer to a single dredge that operated on the South Fork for a number of years, beginning in 1911."* (Italics are mine)

Refer to Yeend, 1996, p.29, figure 20, which depicts dredge a camp for "Atwater" Dredge just below Buckskin Creek."

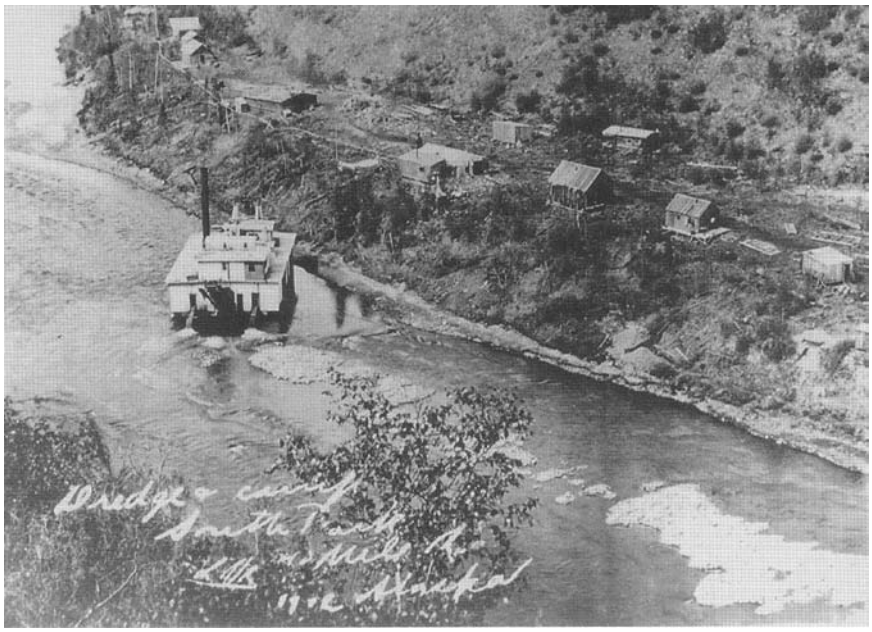
Photo Courtesy C. Waugaman

Yeend (1996:29) stated that the Atwater Dredge was known to have been operating near the mouth of Buckskin Creek in 1912 and 1913.

The attached photos dated 1911 are believed to show the dredge working below Buckskin Creek.

Courtesy C. Waugaman

Courtesy C. Waugaman



The site of this dredge camp was was examined in 2003. No above-ground structural remains survive. A grave fence was noted, and deadmen for anchoring the dredge were clearly visible along the shore, as they are in this photo.

Photo: Eagle Historical Society

This dredge is, in all likelihood, the same dredge that is known as the "Russell King" or "Mulvane" dredge, which is reported to have worked in the same area. See Mertie 1938:160)

Russell King Dredge

This dredge started its working life above the mouth of Walker Fork, where it was constructed in 1907 by an Englishman named Russell King. The dredge worked there from 1907 till 1909, after which it was moved to the mouth of Uhler Creek on the South Fork of the Fortymile River, probably in the winter of 1910 by Robert Mulvane, working upstream from there to Franklin Creek (Mertie 1938:160). There is some confusion on the part of Mertie regarding where it was moved to. In the same report, (ibid.:186), he states it started working upstream from Pump Bar:

> "Whether this dredge worked continuously upstream to Franklin, or whether it was subsequently moved there is not known to the writer, but it is definitely known that it was operated a short distance upstream from Franklin during the season of 1917 and that it was not operated at that site after 1917. In 1936, its machinery was moved to Wade Creek and installed in a new hull by the Jack Wade Dredging Co..

He further reports:

> "Many renovations were made on the old dredge after it was dismantled and moved to this site. It is a stacker type dredge with two sluice flumes and is operated from head and stern lines, but a spud will later be installed. The digging ladder consists of 32 buckets of 4 1/2 cubic foot capacity…The power plant consists of a 150 horsepower boiler which drives three compound steam engines, of which two are rated at 65 horsepower each and the third at 40 horsepower. One of the 65-hordepower engines is used mainly for the pumps; and this engine drives a turbine pump," (Ibid.: 169)

It operated on Jack Wade Creek, commencing July 11, 1936 on claim number five above the mouth of Jack Wade Creek. The dredge was owned by the Jack Wade Dredging Company, which was controlled by the North American Mines of Boston.

Some of the ground where the dredge started working was unfrozen. The plan was to ground sluice the muck ahead of the dredge and then to allow the ground to thaw naturally. The pay streak where the dredge started work is about 800 feet wide. There is 18 feet of overburden.

This dredge was visited in 2003, at which time, it was reported to me that the Bureau of Land Management was planning to raze the vessel due to safety and liability issues. The dredge has been extensively recorded.

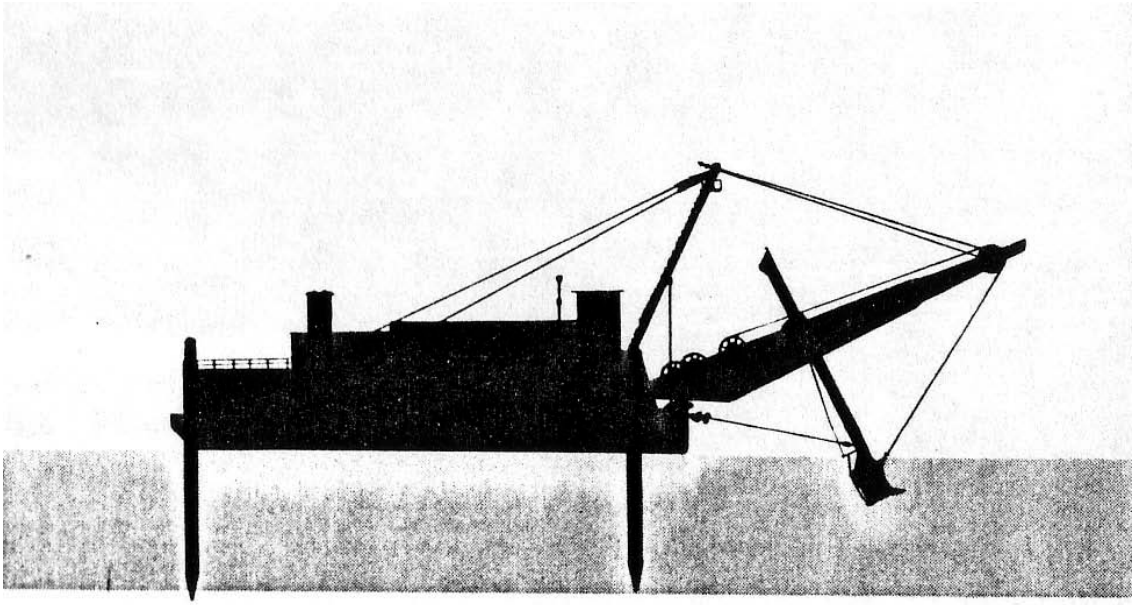
Photo: Michael Gates 2003

The Little Dipper Dredge

The remains of this dredge are located at Pump Bar, below Franklin Gulch. In 1907, This dredge was being constructed at Pump Bar. The machinery was mounted on a scow 42 by 80 feet, built of native spruce lumber. The dipper has a capacity of 2 1/2 cubic yards and could excavate 1,000 yards in 10 hours. The ground being worked was unfrozen and averaged 6 feet in thickness (Prindle 1908:195).

This dredge, reportedly named the "Little Dipper", was destroyed in the spring freshet of 1908 (Mertie 1938:185)

Based upon personal research, I believe that the dipper dredge referred to by Prindle was an atypical design for the Yukon and Alaska. A dipper dredge Has a steam shovel, rather than a bucket line for the excavation of material. Please note the following illustration from the Ellicott brochure ca. 1960



The dipper dredge

This is the only example of a dipper dredge that I have seen in Alaska or the Yukon.

Walker Fork 1 (Milvain Dredge) (Holbrook Dredge) (Mulvane Dredge)

The dredge was installed on Walker Fork, between Davis and Poker Creeks the winter of 1907-08 by Robert Mulvane[1]. It operated successfully from 1908 until 1912 where, a few hundred feet above the mouth of Poker Creek, it was dismantled and taken over to the Sixtymile district of Yukon. (Mertie 1938:160; Prindle 1908:189)

The dredge was was installed on Miller Creek in the Sixtymile region by the North American Transportation and Trading Company the winter of 1912-13, where it operated for a number of years.. This is a wood fired steam-operated dredge of the Risdon type with an open bucket line consisting of twenty eight buckets, giving it a daily capacity of 2,000 cubic yards and bucket capacity of 5 1/3 cubic feet (Bostock 1941:5;1981:646).

The Dawson Daily News of January 6/1915 reported that: " Herb MacDonald is hauling 600 cords of wood to Miller Creek for the Milvain Dredge. The wood there is used for driving the dredge by steam as well as in thawing the ground. …MacDonald is getting his wood on the Sixtymile and uses a steam hoist and cable in hauling. He has 10 men and sixteen horses engaged."

Further, the News reported that the dredge started work on April 20, this nearly a record for an early start for the Miller of Fortymile district. This is two to three weeks earlier than usual."

"Bob (Milvain), who was manager of the dredge company until the war broke out and who now has a commission in the British Army. Bob stated that he had been promoted to the rank of major, and was digging trenches in Surrey as practices and was expecting to receive orders to leave for the front in France any day." (DDN: June 2/1915)

It operated here for a number of years, but was then shut down for nearly 10 years.

"The dredge ….was put (back) into operation by Messrs. Holbrook and Edmundsen in 1929, and has been operating since that year. Twenty four men (were) said to be employed in the operation. The dredge (was) digging naturally thawed ground on the

[1] Note that in the American geological reports, the name is spelled Mulvane, but in the Dawson News, it is Milvain. These appear to refer to the same individual despite the different spellings.

N.A.T. concession between the mouths of Miller and Glacier Creeks. The returns (were) said to be satisfactory." (Bostock 1981:635)

The dredge, operated by the Holbrook dredging Company, employed 30 men, directly or on directly, in 1933. "The dredge has been greatly improved since it was taken over by the present managers and its efficiency much increased. It is run by steam, wood being the fuel. The boiler has a working capacity of 125 horsepower and for the dredge, from 6 to 7 cords of wood are burnt per 24 hours. A new bucket line is one of the chief improvements. This consists of a closed line of fifty-two 4 cubic foot buckets instead of the old line of twenty-eight. The new line weighs approximately the same as the old one but has twice the digging capacity. Another improvement has been the instalment of a modern rubber belt stacker. This dredge will dig to a depth of 20 feet under water. During …… August the dredge was being moved up the river to a point just below the mouth of Miller Creek on the left limit of Sixtymile Valley where the ground is more consistently thawed and the areas of pay gravels are better known. The ground in this part of the valley was being stripped of muck to enable it to thaw next spring. Lack of water, however, was a great drawback to the operations during the season. The successful operation of this dredge in a district cut off from hydroelectric power and organized transportation reflects great credit on the management." (Bostock 1981:646)

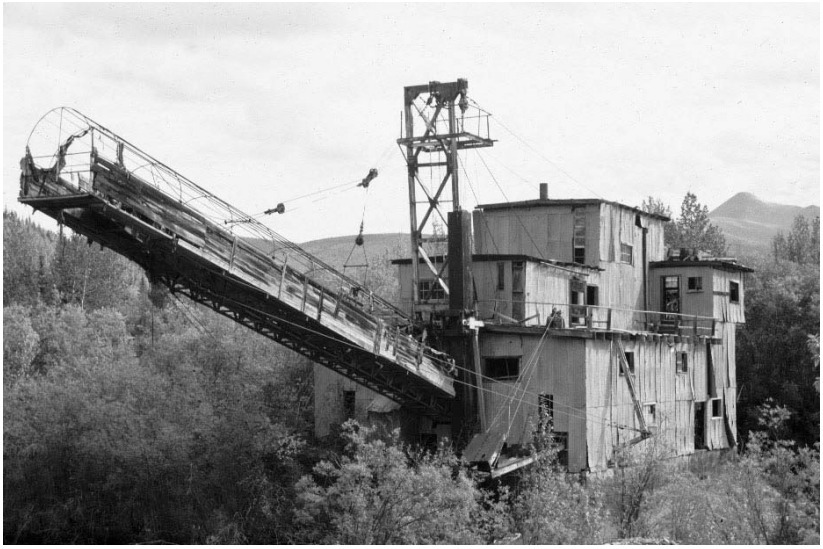
The dredge was converted to diesel power in 1937, but owing to its age and condition, by 1941, was operating at only 60% of its capacity. " The Holbrook Dredging Company was under receivership in 1939 and 1940, and was managed by Mr. W.A. Williams (Bostock 1941:5).

Walker Fork 2

Yeend (1996:26), In 1934, a stacker-type dredge was installed. Powered by the burning of 5-6 cords of wood a day, this .11 cubic yard bucket line. The dredge operated until 1938, when it shut down. It is still visible today at the end of dredge tailings on Walker Fork, just above the mouth of Cherry Creek

Walker Creek 3

See Atwater Dredge



Glacier Creek Dredge

Another mining operation was started in the Sixtymile district during 1941. The Idaho Canadian Company (United States capital) acquired ground on Glacier Creek, Big Gold and Sixtymile Creek from W. A.

Williams. A second-hand pontoon dredge built by Washington Iron Works, was shipped to Whitehorse from the United States late in 1941. A part of the shipment reached Dawson, and some of the equipment was freighted to Big Gold Creek, where a camp was started. Owing to the fact that the Idaho Canadian Company could not obtain a diesel engine to operate the dredge, the construction of the dredge was postponed. (Debicki 1983:21-22)

In 1947, Yukon Explorations Ltd. completed the construction of a seventy bucket 3 ½ cubic-foot dredge near the confluence of Big Gold and Glacier Creeks. The dredge operated for the remainder of the season. (Debicki 1983:50)

In 1949, Yukon Placer Mining Company , a partnership of 5 or 6 miners from Alaska bought out the holdings of the Yukon Exploration company, which was in receivership. The dredge was not operated this year. (Debicki 1983:64)

In 1950, Yukon Placer Mining Company began dredging with the former Yukon Explorations Ltd. 4 cubic foot bucket line diesel Dredge early August until October 1 (Debicki 1983:70)

In 1951, Yukon Placer Mining Company Operated "…a Washington Iron Works diesel-electric dredge with a 3 ½ cubic yard [foot] buckets. Preparatory work was begun April 20th, and the dredge began mining on June 16th. It continued operation until October 15th." (Debicki 1983:81)

In 1952, Yukon Placer Mining Company operated its dredge from April 20th (preparatory work), with the dredge commencing June 9th, until October 14th. (Debicki 1983:88)

In 1953, Yukon Placer Mining Company started preparatory work on April 20th, with the dredge commencing June 19th, until October 15th. There was a shortage of water during the season. Between the dredge and the cat mining, there were 28 employees. Debicki (1983:95)

In 1954, Yukon Placer Mining Company commenced preparatory work April 20th, with dredge work beginning June 2nd,, and continuing until October 16th. The camp, employing 30 employees, closed down October 17th. (Debicki 1983:103)

The dredge continued to operate in similar fashion until 1957. It did not operate in 1958. Only four employees worked this season. Debicki (1983:134) states that the dredge operated in 1959 for 44 days, starting July 28th.

The dredge was disassembled in 1999 and transported 800 kilometres to Skagway, Alaska, where it was reassembled and now serves as a tourist attraction.

Mosquito Fork Dredge (Lost Chicken Dredge) (Cowden Dredge)

Alaska Gold Dredging Company installed a new dredge in the spring of 1936 3/4 mile below the mouth of Lost Chicken Creek. Yeend (1996: 29-30) Refers to this as the Lost Chicken dredge, stating that it was shipped from Skagway to Whitehorse on the WP&YR, then to the mouth of the Fortymile River by steamer, and then, during the winter of 1936, up the Fortymile and South Fork by caterpillar tractor It started working on June 5 of that year, and shut down in October, having employed 20 men, 13 of who operated the dredge in three shifts around the clock.

By July 20th, it had worked a 150 foot-wide strip of ground 1700 feet upstream from its starting point.

According to Mertie (1938:180-181) "The dredge is of the pontoon type, manufactured by the Washington Iron Works. The hull is composed of 31 sections of sheet steel, and the superstructure is also of steel. The dredge has 64 buckets, of 4 cubic foot capacity each, which dig at the rate of 24 a minute. The digging ladder can operate to a depth of 16 feet below the water level. One spud, two headlines, and two stem lines are used in operating the dredge. The trommel screen is 22 feet long and is built in six sections, with holes ranging in size from 3 inches to half an inch. The gravel is reached by five nozzles at the lower end of the screen, and by a sprinkler at the upper end. From the trommel, the gold and fine gravel go to a sluice line and flume. A seven-drum hoist is used, of which six drums are utilized for the two head lines, two stem lines, spud and digging ladder. For power, wood is burned under a 200 horsepower boiler, which carries 200 pounds of steam. The daily consumption of wood is about 7 cords. Two 100-horsepower compound

steam engines are used, one of which drives the screen and pumps and the other is used for the digging ladder and stacker. A smaller engine operates the winch. For the sluice line and trommel, two pumps with a capacity of 1,500 and 2,000 gallons a minute are used. Electric power for lighting is supplied by a 2-kilowatt direct current generator."

The dredge initially burned coal, but this was quickly replaced by wood as the coal did not generate enough steam. This dredge operated for 1 1/2 years, before until the NCCo. took over and shut it down. (Yeend 1996: 29-30).

Blankman Dredge

"During 1934 a dredge was constructed on Fortymile River, a short distance below the mouth of Bear [=Bruin] Creek, under the direction of Mr. H.G. Blankman. Mr. Blankman writes that it was originally expected the dredge would be ready to operate during the latter part of the season, but that the torrential downpour that occurred in August produced a flooded condition that lasted until the end of the season, the dredge was only operated to dig to a safe place for wintering. In this undertaking, however, the dredge operated very satisfactorily and a successful season is looked forward to in the coming year. The dredge is a small prospecting type. There are thirty-eight 21/2-cubic foot buckets in the line and the dredge is expected to handle 700 to 800 cubic yards a day. It is hoped that this dredge will prove sufficient ground of value to warrant instalment of a larger dredge with 5-cubic foot buckets." (Bostock 1935: 1)

"During 1935 the small dredge constructed under the direction of Mr. H. G. Blankman, on Fortymile river a short distance below the mouth of Bear creek, was run for a very short time making a test of the ground. The recoveries are reported to have been satisfactory." Bostock (1936:1):

"During the last few years Mr. H. G. Blankman endeavoured to develop a dredging property on Fortymile River. In 1937 his company, under the management of Mr. P. Fosbery, started to drill the Fortymile Valley 16 miles from the mouth and 7 miles from the International Boundary. A light gasoline drill was used and ten holes were drilled despite unusually high water that lasted through most of the summer. Mr. Fosbery reports that the thickness of the gravels averaged 17 feet and that the bedrock is schist cut by numerous quartz veins. He believes that the results of the drilling warrant further prospecting and that the valley is suitable for dredging with a boat of the right type." (Bostock 1937:2):

The dredging lease of the Fortymile River canyon was allowed to lapse. (Bostock, 1938:3)

Bill Claxton and Leslie Chapman report (verbal communication March 4/98) that there is a large dredge located at the mouth of Bruin Creek on the Fortymile River which is said to be the first dredge in the Yukon. It was brought in to Fortymile in the 1930's by Howard Blankman. Leslie Chapman (personal communication) noted that if you go up Bruin Creek you see large piles of cut logs, presumably for use as fuel on the dredge, that

now lie rotting in the bush. The dredge camp is reportedly a short distance upstream from the mouth of Bruin Creek.

There is no indication of where this dredge came from. Blankman moved a dredge from this area to the Kink on the North Fork of the Fortymile River, which was still reported to be there in 1938 (Mertie1938:185). Since the remains of the dredge at Moose Creek are still visible, it raises the question of where this dredge came from.

Boundary Dredge

Remnants of dredge digging ladder and bucket line at the mouth of Moose Creek
Photo: M.Gates

According to Prindle (1908:189): A steam-powered Dredge dredge was being installed at the international boundary in 1907. Prindle (1909:195) stated that this was a 2 1/2 cubic foot dredge, capable of excavating 1500 cubic yards of material every 24 hours. The bedrock on the bar being worked had 8 feet of material overlying the bedrock, and while the ground was not frozen, boulders made the work "troublesome".

Mertie (1938:185) stated: "Two other dredges were also installed in the Fortymile Valley in 1907, one of which was located at the international boundary, and the other in Yukon Territory about 4 miles above the mouth of the Fortymile River. Both of these dredges appear to have been operated successfully for several years, as reference is made by Ellsworth and Davenport [1913] to two Canadian dredges that were being operated by the Canadian Securities Co., Ltd., on the Lower Fortymile River as late as 1912. One of these two Canadian dredges was afterward dismantled, and moved, by a Mr. Blankman, to the

'kink' of the North Fork of the Fortymile, about 12 miles in an air line from its confluence with the South Fork. It was not a success at this site and still remains there."

According to Yeend (1996:22), the dredge worked on Moose Creek from 1909-1911. The Fortymile River dredges referred to by Mertie quit operating by about 1914.

Given the remains found at the mouth of Moose Creek, depicted above, it is assumed that the dredge transported by Blankman to the Kink was the other of the two dredges.

Canyon Creek Dredge

According to Yeend (1996: 43-44) " The Boundary Dredging Company established a bucket dredge on Canyon Creek in 1938 and had successful seasons during 1939 and 1940. The Yukon Placer Mining Company mined with a bucket dredge in 1948"

Chicken Creek

> "In 1959 a dredge was moved from near Fairbanks to the mouth of Chicken Creek and began to work its way up the creek. The dredge had a 25-foot (7.6n meter) digging arm, which was ideal for this area because bedrock was less than 25 feet (7.6 meters) deep after the overburden had been removed. The dredge had 3-cubic-foot (0.08-cubic-meter) buckets and was able to to dig about 125 yards (95 cubic meters) per hour. The dredge ran 24 hours a day and cleanup took place every 2 weeks. From 150 feet (46 meters) of sluice boxes on the dredge, an average of about 1,150 ounces of gold would be recovered per cleanup. Using these figures, at today's price of gold ($350 per ounce), it can be calculated that the dredged ground was yielding about $9.50 per cubic yard, ($7.26 per cubic meter). The dredge operated June to October from 1959 to 1967. Operations were ceased when increasing costs of equipment and labor made further dredging economically unfeasible." (Yeend 1996:35)

The dredge mentioned above is now located near the Taylor highway, to which location it was moved around 1998 for development as a tourist attraction.

The Lower Fortymile Dredges

Lower Fortymile Dredge 1

There were two dredges on the Lower Fortymile River, one of which was "….in Yukon Territory about 4 miles above the mouth of the Fortymile River. Both of these dredges appear to have been operated successfully for several years, as reference is made by Ellsworth and Davenport [1913] to two Canadian dredges that were being operated by the Canadian Securities Co., Ltd., on the Lower Fortymile River as late as 1912. One of these two Canadian dredges was afterward dismantled, and moved, by a Mr. Blankman, to the 'kink' of the North Fork of the Fortymile, about 12 miles in an air line from its

confluence with the South Fork. It was not a success at this site and still remains there." (Mertie 1938:185)

Lower Fortymile 2

Bill Claxton and Leslie Chapman report (verbal communication March 4/98) that there is a small derelict dredge at the bottom of the Fortymile Canyon. There is a dredge camp reported a short distance below on the north side of the river where there are old boilers and other items at this site.

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