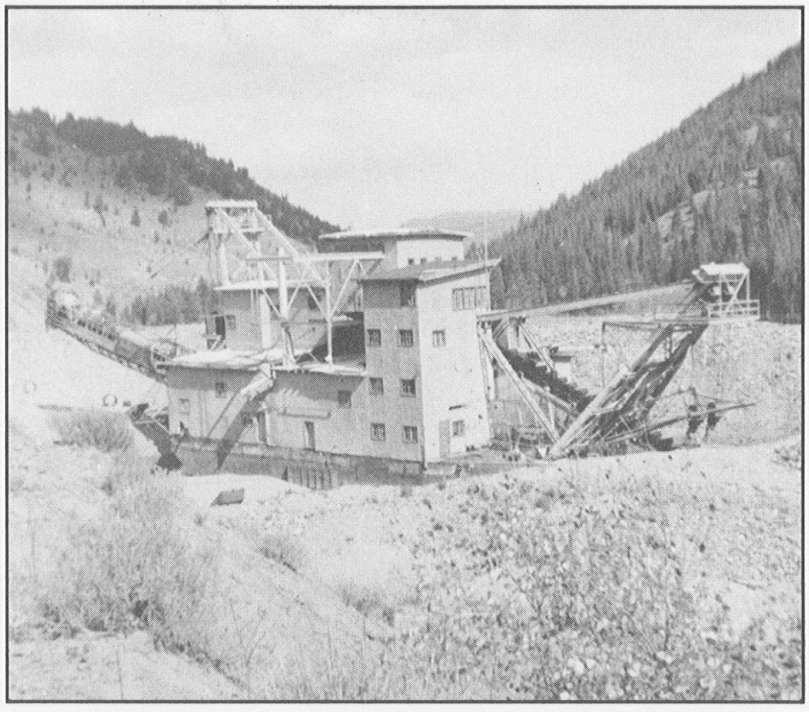

A History of Gold Mining on the Yankee Fork River, Custer County, Idaho

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Field Guides to the Quaternary Geology of Central Idaho: Part C. History of Gold Mining on the Yankee Fork River, Custer County

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LOCATION

Refer to **Stop 9**, Figure 1 of Evenson and others, this volume. The Yankee Fork placer mining area and the Yankee Fork dredge are reached by following Idaho Highway 75 east from Stanley for 13 miles, to Sunbeam. Turn left (north) at Sunbeam toward Bonanza and Custer. This gravel road parallels the Yankee Fork. Approximately 3.5 to 4.0 miles north of Sunbeam, dredge tailings are visible for the next 5 to 6 miles along the banks of the Yankee Fork. The Yankee Fork dredge is located on the left (west) side of the road approximately 8.8 miles north of Highway 75. The old mining town of Custer, now a museum and historical site, is located another 2.2 miles to the north (see Fig. 1 of Evenson and others, 1988, this volume).

HISTORY OF NINETEENTH CENTURY GOLD MINING IN IDAHO

Early settlement of the Idaho Territory (established in 1863) was greatly influenced by the influx of prospectors and miners searching largely for gold and silver in its rugged mountainous regions. Many of these miners were first involved in the great California gold rush of 1848, and in its aftermath they slowly migrated to other promising areas of Nevada, Colorado, British Columbia and Idaho.

In 1860, E. D. Pierce made the first significant gold discovery in what was to become the Idaho Territory, on Oro Fino Creek in Clearwater County (approximately 60 miles east of the present town of Lewiston, Idaho). Subsequently, the discovery of gold on the Salmon River in 1861 inspired a rush to the Salmon in 1862, involving upwards of 10,000 miners. Later that year, placer gold was discovered in the Boise Basin. Lode mining began in earnest, with discoveries near Atlanta, Rocky Bar and Silver City between 1864 and 1869. Placer gold was discovered on Loon Creek, approximately 25 miles northwest of the Yankee Fork, in mid-1869 (Fig. 1).

Discovery of the rich placer and lode deposits of the Yankee Fork region began in 1870 (Idaho State Historical Society, 1976). In the spring of 1871, claims were discovered that produced $8.00 per day. In 1873, placer mining began along Jordan Creek, a tributary to the Yankee Fork located between the future sites of Bonanza and Custer. Still, the Yankee Fork discoveries created little excitement and only modest placer mining took place in the area from 1871 to 1874.

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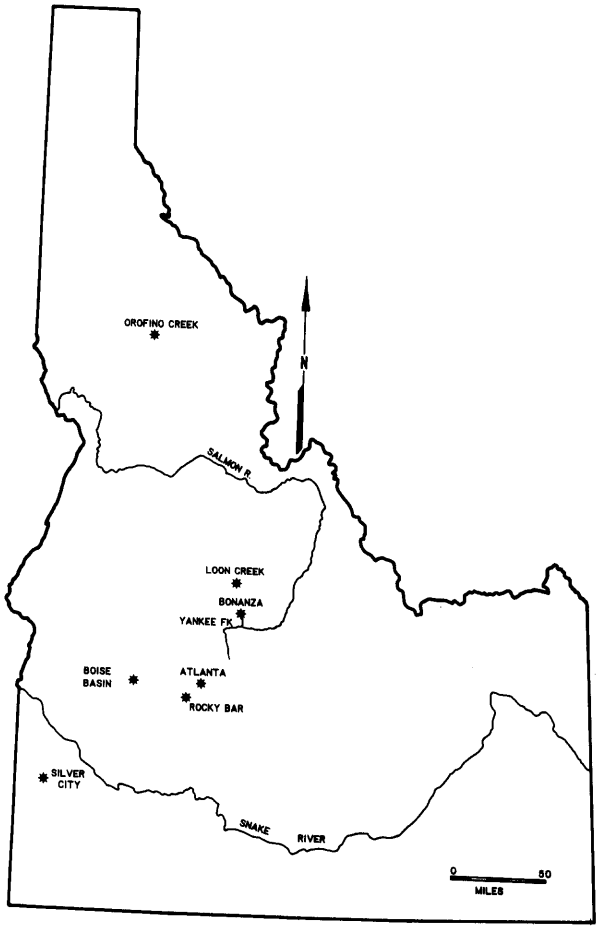

Figure 1. Location map of principal nineteenth century gold mining localities in Idaho.

In 1875, a lode deposit was discovered which was the likely source of the Jordan Creek placer deposits. One 2-to-3-inch-wide seam within a gold-quartz vein from this property yielded $11,500 by hand-mortar separation methods in a single month. From 1876 to 1879, the mine produced approximately $133,000, mostly through hand-mortaring. The town of Bonanza sprang up in 1877, and Custer was founded a year or two later.

In the spring of 1879, the gold rush to the Yankee Fork finally began in earnest. By the summer of 1879, the settlement of Bonanza had grown to a population of some 2,000 persons. Gold mining in the Yankee Fork district lasted for some twenty years, and as the more easily mined placer and lode deposits were exhausted, mining activity and population slowly decreased. By 1911, Bonanza and Custer were ghost towns.

Placer Mining and Dredging on the Yankee Fork

The Yankee Fork River has been dredged northward from a point approximately 3.2 miles north of its junction with the Salmon River to its junction with Jordan Creek, about 0.5 mile north of Bonanza (Fig. 2).

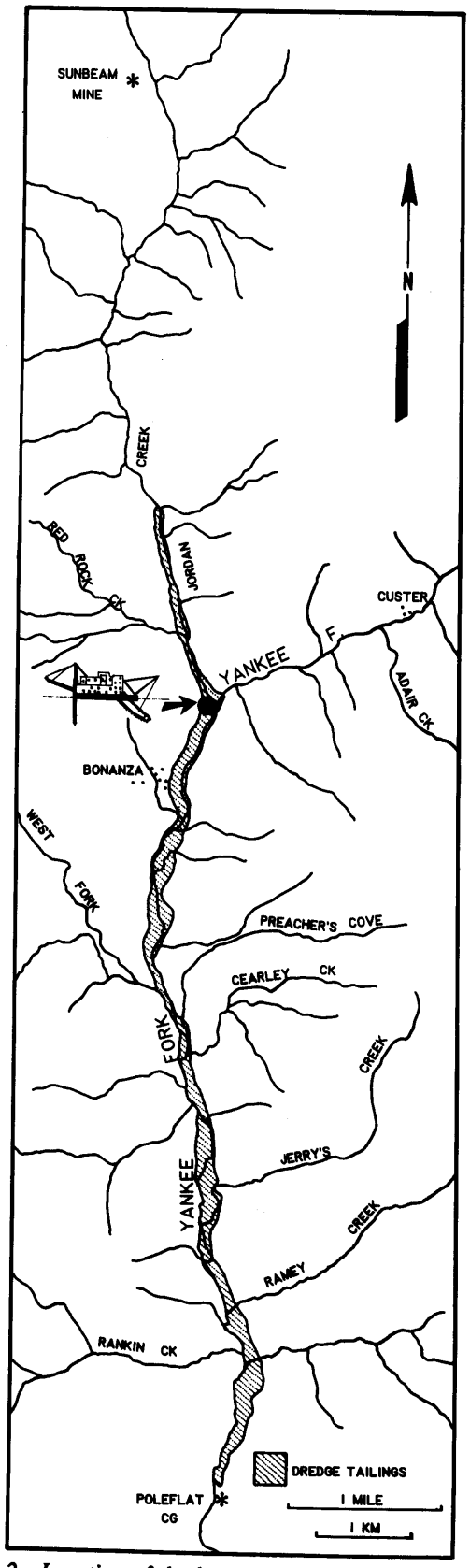

Figure 2. Location of dredge workings and tailings on the Yankee Fork and Jordan Creek.

The dredged area is approximately 5.2 miles long and 400 feet wide (Choate, 1962). Jordan Creek has likewise been dredged from its confluence with the Yankee Fork to a point approximately 1.2 miles upstream.

The gold-bearing channel of the Yankee Fork has been described by one of the dredge operators as follows:

> *The "pay streak" or "pay channel" extends in a meandering fashion, the entire distance from Jordan Creek to the mouth of Yankee Fork. The pay is a very-distinct-appearing, decomposed clay with gravel. The pay streak is approximately 6 inches above bedrock; 8-10 inches thick, and 150 feet wide. On the bends the gold was always on the inside.* (Choate, 1962).

Much of the gold in the Yankee Fork presumably came from Estes Mountain, down Jordan Creek which enters the Yankee Fork from the north between Bonanza and Custer. Drilling records indicate that the Yankee Fork above Jordan Creek contains only $0.16 gold value per cubic yard (at $35.00 per ounce) whereas Jordan Creek contains $1.00 to $3.00 per cubic yard (Choate, 1962).

In addition to these two major creeks that have been worked by dredges, Adair Creek, a tributary to the Yankee Fork near Custer, and Rankin Creek, a tributary near the southern end of the dredge workings have been either hand-placered or worked by bulldozer during the past century. They are too shallow to work by dredges.

Twentieth Century Placer Mining and Dredging on the Yankee Fork

During the 1930s, State Senator R. E. Whitten assembled options on a group of inactive placer claims along the Yankee Fork. These claims covered a strip of river bottom approximately five miles long. In 1932, the Yankee Fork Placer Mining Company acquired these options, brought in a small dredge and began mining. The operations ceased before any significant production because of unexpectedly large boulders and the tightly cemented gravels in the Yankee Fork riverbed.

A few years later, in 1939, the Silas Mason Company began a program of systematic rotary drilling on 100-foot centers to test the dredging potential of the Yankee Fork. Successful drilling results led to the formation of the Snake River Mining Company. An amusing account of the naming of this company is given in Packard (1983):

> *Showing little knowledge of the geography of the State of Idaho, and knowing only that the Snake River drained a large part of the state, the eastern-bound financiers casually adopted the name of the largest river for their company.*

Early in 1940, a contract was signed with the Bucyrus-Erie Company to construct the Yankee Fork dredge. Assembly of the dredge took place in the Yankee Fork valley near the present-day Polecamp Flat Campground (see Fig. 2). The pontoons and frame of the dredge were produced by the Olsen City Manufacturing Company in Boise and trucked over Galena Summit to the assembly site. The heavy machinery manufactured by Bucyrus-Erie was shipped by train from Wisconsin to the railhead at Mackay and thence by truck to the Yankee Fork. Perhaps the single most impressive truck load was the 17.5-ton, 55-foot-long, steel spud. The assembly of the dredge was completed in just under four months during the summer of 1940.

Dredge operations began in late August 1940 and continued until October 12, 1942, when production was halted by the War Production Board Act that regulated nonessential mining activities during World War II. Dredging of the Yankee Fork by the Snake River Mining Company began again in March 1946 and continued until the fall of 1947. During its pre- and post-war operations, the Yankee Fork dredge worked the stream gravels from Polecamp Flat northward to a point just above West Fork Creek, where significantly lower gold values caused the cessation of dredging.

Subsequently, the Warren Mining Company, owned by Fred Baumhoff and J. R. Simplot, bought both the Yankee Fork dredge and the placer claims owned by the Snake River Mining Company. Dredging began again in 1950, and the dredge slowly worked its way northward until it encountered a prominent bedrock bar across the Yankee Fork about a quarter of a mile below Bonanza. A temporary earthen dam was built to the south of the dredge, and the dredge was successfully floated across the bedrock obstacle. High gold values were again found in the gravels on the north side of this bar, and dredging operations continued northward, past Bonanza, to the northern end of the property at the mouth of Jordan Creek. The dredge ceased operation for the last time in 1952, although it ran once more in 1953 when it was returned to its present site on the claims of the Warren Mining Company.

The abandoned and vandalized dredge was donated by J.R. Simplot to the U.S. Forest Service in 1966 for use as a museum. Through a cooperative agreement between the U.S. Forest Service and the Yankee Fork Gold Dredging Association, the dredge is slowly being restored and is open for public tours. The Yankee Fork dredge is the last Bucyrus-Erie gold dredge built for Idaho and is, presumably, the last remaining dredge of the sixty that once operated in Idaho. Table 1 shows production figures for the dredge operations from 1940 to 1952.

OPERATION OF THE YANKEE FORK DREDGE

The hull of the Yankee Fork dredge (Fig. 3) is 112.5 feet long and 54 feet wide; it floats on 25 (10 x 10 x 27 foot) pontoons. The highest point on the dredge is the 64-foot-high stern gantry which supports the spud and the 105-foot-long stacker (Packard, 1983). The 17.5-ton

Table 1. Production figures for the Yankee Fork dredge from 1940 to 1952. (from Choate, 1962).

Year	Gold	Silver	Cubic Yards	Months Worked	Recovery per Yard
1940	$ 31,745.	$ 416.	214,000	4	$ 0.15
1941	262,500.	2,677.	1,244,000	12	0.21
1942	169,267.	2,195	1,428,000	10	0.12
1946	183,120.	2,512.	1,099,000	8	0.17
1947	90,440.	1,359.	715,000	8	0.13
1950	(42,315.)	(1,064.)	(631,000)	7	0.15
1951	179,515.	3,010.	(804,000)	8	0.23
1952	64,120.	1,065.	195,000	4	0.33
Totals	$1,023,025.	$14,298.	6,330,000	61	$ 0.16

Total gold & silver dredged by the Yankee Fork dredge ($1,037,323.00)
Total cost of digging 6,330,000 cu. yds. per $ 0.17 ($1,076,100.00)
Average gold and silver per cubic yard ($ 0.16)
Estimated cost of digging a cubic yard ($ 0.17)
(Figures included in parentheses are estimates.)

spud is attached vertically to the stern of the dredge, and during dredging operations its point rested on the river bottom, providing a pivot point for the dredge as it swung and loaded from side to side in the channel.

The bucket line on the bow of the dredge contains 71, eight-cubic-foot capacity, buckets weighing over a ton each (Packard, 1983). The buckets would load and dump at a rate of 26 per minute and could reach to a maximum depth of 37 feet below the water surface. The gold-bearing gravel was then sized by screening and washed through sluice boxes where the ore was caught by a system of riffles and mercury traps. The coarser, non-gold-bearing gravels and cobbles were passed through the dredge to the stacker on the stern, which built the crescent-shaped dredge-tailings piles commonly seen at most places along the Yankee Fork. A schematic illustration of the Yankee Fork dredge in operation is shown in Figure 4.

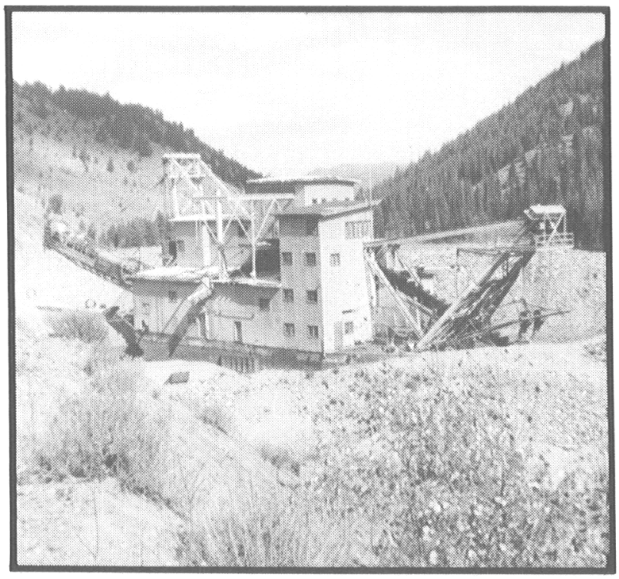

Figure 3. Yankee Fork dredge, now residing near the junction of Yankee Fork River and Jordan Creek (Stop 9). (Idaho Geological Survey photograph).

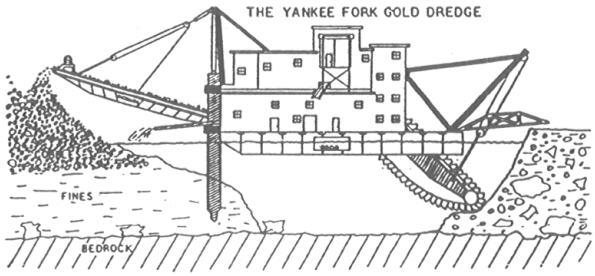

Figure 4. Illustration of the Yankee Fork dredge in operation. The spud anchors the stern of the dredge as the bucket line excavates gravel at the bow (from Packard, 1983).

The riffle collection system had sufficient capacity for about two weeks of continuous operation. When the riffles were full, the "clean-up" took place. The gold-rich material was washed into a funnel-shaped container, the clean-up jig, where it was further separated from the remaining light-mineral fraction and amalgamated with mercury. The gold-mercury amalgam was then taken ashore and retorted to separate the gold from the mercury, which was then reused by the dredge. After this step, the gold was either shipped directly to a smelter or further refined on site to produce high-purity gold bars (Packard, 1983).

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