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NPS Form 10-900
(Rev. 10-90)

United States Department of the Interior
National Park Service



**NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

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1. Name of Property

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historic name F.E. Company Dredge No. 4

other names/site number Pedro Dredge, Chicken Dredge
AHRS Site No. EAG-00069

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2. Location

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street & number ¼ mile Chicken Airport Road, mile 66.4 Taylor Highway
(from Tetlin Junction)

not for publication n/a

city or town Chicken (unincorporated) vicinity n/a

state Alaska code AK county Southeast Fairbanks code 240

zip code 99732

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F.E. Company Dredge No. 4
Southeast Fairbanks, Alaska

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this X nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide X locally. (See continuation sheet for additional comments.)

Joan M. Antonson 4.19.06
Signature of certifying official Date

Alaska
State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

- entered in the National Register See continuation sheet.
- determined eligible for the National Register See continuation sheet.
- determined not eligible for the National Register
- removed from the National Register
- other (explain): _____

[Signature] 5/19/2006

Signature of Keeper Date of Action

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5. Classification

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Ownership of Property (Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property (Check only one box)

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

Contributing	Noncontributing
<u> </u>	<u> </u> buildings
<u> </u>	<u> </u> sites
<u> 1 </u>	<u> </u> structures
<u> </u>	<u> </u> objects
<u> 1 </u>	<u> 0 </u> Total

Number of contributing resources previously listed in the National Register n/a

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) n/a

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6. Function or Use

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Historic Functions (Enter categories from instructions)

Cat: Industry/processing/extraction Sub: extractive facility

Current Functions (Enter categories from instructions)

Cat: Work in progress Sub: museum

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7. Description

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Architectural Classification (Enter categories from instructions)

No style

Materials (Enter categories from instructions)

foundation n/a
roof asphalt
walls metal
other n/a

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

F.E. Company Dredge No. 4 is located on the west side of Chicken Creek just south of the Taylor Highway, adjoining the remains of the F.E. Company camp on Nora Bench claim. The dredge is in the community of Chicken (historic district listed in the National Register of Historic Places, September 30, 2001) in northeastern Interior Alaska. The community is 66.5 miles north via the Taylor Highway of Tetlin Junction on the Alaska Highway.

Dredge No. 4 was built by the Yuba Manufacturing Company of San Francisco in 1938 (dredge #133). The F.E. Company had it shipped in pieces to Fairbanks. Workers assembled the dredge on Pedro Creek and it started digging there July 11, 1938. The company used the dredge on Pedro Creek until October 13, 1958, when it was disassembled and trucked several hundred miles to Chicken Creek in the Fortymile district near the Alaska-Canada border. There it was reassembled and operated from September 1959 until October 1967.

Dredge No. 4 is a self-contained diesel-electric powered gold processing and recovery machine. It is a stacker dredge of conventional design. The F.E. Company had two dredges, No. 4 one of them, with hulls made of various sizes of separate pontoons. Dredge No. 4's barge-like hull is constructed of 24 steel pontoons with a combined weight of 225,101 pounds. The hull is 85 feet long, 44 feet wide, and 6.5 feet deep, excluding the side mounted pump houses. The two story superstructure is steel and wood framed and sheathed with metal. It houses the engine room, main drive room, screen house, gold recovery tables, and winch room. The dredge, fully loaded, had a draft of 5.5 feet and displaced 500 tons.

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8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions)

industry
engineering

Period of Significance 1959-1967

Significant Dates 1959

Significant Person (Complete if Criterion B is marked above)
n/a

Cultural Affiliation n/a

Architect/Builder Yuba Manufacturing Company

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F.E. Company Dredge No. 4
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9. Major Bibliographical References

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(Cite the books, articles, and other sources used in preparing this form.)

Beckstead, Douglas. *The World Turned Upside Down: A History of Mining on Coal Creek and Woodchopper Creek, Yukon-Charley Rivers National Preserve, Alaska.* Anchorage: National Park Service, 2003.

Boswell, John C. *History of Alaska Operations of United States Smelting, Refining and Mining Company.* Fairbanks: University of Alaska Mineral Industries Research Laboratory, 1979.

Crawford, J. D. *Report on Chicken Creek, Fortymile District.* Fairbanks Exploration Company, 1940.

----- . *Report on Fortymile, Sixtymile, and Seventymile Districts Including Examination of the Dome Creek Placer.* Fairbanks Exploration Company, 1933.

Eagan, Pete. Manager, Alaska Gold Company, Fairbanks, Alaska. Personal communication with author.

Haynes, Terry L. *They Didn't Come in Four Wheel Drives: An Introduction to Fortymile History.* Boulder, Colorado: Western Interstate Commission of Higher Education, 1976.

Mertie, J. B., Jr. *Gold Placers of the Fortymile, Eagle, and Circle District, Alaska.* U.S. Geological Survey Bulletin 897-C. Washington, D.C.: Government Printing Office, 1938.

Prindle, Louis M. *The Gold Placers of Fortymile, Birch Creek, and Fairbanks Regions, Alaska.* U.S. Geological Survey Bulletin 251. Washington, D.C.: Government Printing Office, 1905.

Spence, Clark C. *The Northern Fleet: Twentieth-Century Gold Dredging in Alaska.* Champaign: University of Illinois Press, 1966.

Yeend, Warren. *Gold Placers of the Historical Fortymile Region, Alaska.* U.S. Geological Survey Bulletin 2125. Washington, D.C.: Government Printing Office, 1996.

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Southeast Fairbanks, Alaska

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Previous documentation on file (NPS) n/a

preliminary determination of individual listing (36 CFR 67) has been requested.

previously listed in the National Register

previously determined eligible by the National Register

designated a National Historic Landmark

recorded by Historic American Buildings Survey #

recorded by Historic American Engineering Record #

Primary Location of Additional Data

State Historic Preservation Office

Other State agency

Federal agency

Local government

University

Other

Name of repository:

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10. Geographical Data

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Acreeage of Property less than one

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing	Zone	Easting	Northing
1	07	454266	7105342	3		
2				4		
		<input type="checkbox"/> See continuation sheet.				

Verbal Boundary Description (Describe the boundaries of the property.)

The dredge is on the right limit of Chicken Creek, a quarter mile south of mile 66.5 of the Taylor Highway. It is located on Nora Bench Claim, U.S.M.S. 2097 as recorded in the Fairbanks Recording District, Fourth Judicial District, Alaska.

Boundary Justification (Explain why the boundaries were selected.)

The nominated property includes the dredge structure and its bucket line lying on the ground adjacent to it. The dredge is on a gravel pad adjacent to the creek where it operated from 1959-1967.

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Southeast Fairbanks, Alaska

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11. Form Prepared By
=====

name/title Michael Busby

organization Owner

date March 15, 2006

street & number 4481 West Hill Road

telephone 907-235-5494 or 907-235-6396

city or town Homer **state** AK **zip code** 99603

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Additional Documentation
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Submit the following items with the completed form:

Maps

A USGS map (7.5 or 15 minute series) indicating the property's location.

A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative black and white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items)
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Property Owner
=====

(Complete this item at the request of the SHPO or FPO.)

name Michael and Emmalu Busby

street & number 4481 West Hill Road

telephone 907-235-5494 or 907-235-6396

city or town Homer **state** AK **zip code** 99603

name Bernie Karl and Connie Parks-Karl

street & number P.O. Box 58055

telephone

city or town Fairbanks **state** AK **zip code** 99715-8055

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The dredge is powered by two Cat D375 diesel power engines with 480 volt, 185 kilowatt generators. When it operated, the bucket line with 65 three cubic foot buckets was driven at 29 buckets per minute around the 55 foot long digging ladder by the 40 foot diameter upper tumbler made of nickel chromium steel and turning at 4.7 revolutions per minute. The lower tumbler, four feet in diameter, is made of manganese steel. The dredge has two spuds for anchoring and walking, each 36 feet long and weighing 13,430 pounds.

Dredged material was emptied from the buckets into a hopper that fed a 30.5 foot long by 5 foot diameter trommel screen turned by a 25 horsepower motor. The fine gravel passing through the screen went across 1,360 square feet of recovery tables. The steel transverse tables were set at a grade of 1.25 inches to the foot, and the longitudinal tables were set at 1.125 inches to the foot. The boxes were all equipped with standard iron shod or rubber shod trap riffles and expanded metal over coco matting. On the bow side of the hopper was 100 square feet of save-all tables for processing the material spillage that missed the hopper. Water was pumped to a spray manifold running through the screens and to the recovery tables by three pumps. One pump was a 50 horsepower high pressure 8" x 10" pump, one a 30 hp high pressure 6" booster pump, and the third a 30 horsepower 8" x 10" low pressure pump, all of which were primed by a 5 horsepower 3" pump. The operating flow rate for all pumps was approximately 6,000 gallons per minute. The oversize material from the screens was deposited behind the dredge by an enclosed stacker housing a 2.5 by 80 foot conveyor driven by a 25 horsepower motor running at a maximum of 308 feet per minute.

Dredge No. 4 is equipped with four line winches, a ladder hoist winch, two spud winches, a 7.5 horsepower jitney winch, 3 horsepower foot bridge winch, jib crane, 400 amp Westinghouse welder, miscellaneous mechanic and blacksmith tools, grease pumps, and fire equipment. One of the pontoons houses an 18 hp Kewanee oil-fired boiler which was used for heating the digging ladder, stacker, main hopper, recovery tables and save-all, and for cutting ice from the dredge pond each spring. The heat allowed for early spring and late fall operations.

The F.E. Company removed the bucket line from the dredge in 1967, as was done with all company dredges when operations ceased. It is on the ground adjacent to the dredge. All other machinery components and tools are in place and still functional. The interior of the dredge retains its original appearance. F.E. Company Dredge No. 4 is one of the best remaining examples of the industrial, gold extraction machines that operated in Interior Alaska between the 1920s and 1960s.

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Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

F.E. Company Dredge No. 4 is an outstanding example of the mechanized industrial machines used to extract gold across interior Alaska during the middle years of the twentieth century. The F.E. Company was a subsidiary of the United States Smelting, Refining and Mining Company of Boston with extensive operations on the Seward Peninsula and across interior Alaska. The company used Dredge No. 4 on Pedro Creek, the discovery creek of the Fairbanks Mining District, for twenty years. The hull structure and smaller size of Dredge No. 4 made it easier and cheaper to move than most of the company's other dredges. In 1958, Dredge No. 4 was disassembled, trucked several hundred miles to the Fortymile District in the eastern interior, and reassembled. The dredge started digging on Chicken Creek in 1959. It was the only dredge operated by the F.E. Company in the Fortymile District. It stopped working when the company shut down all its operations in 1967. The dredge, on Chicken Creek, close to but at the site less than fifty years, is exceptionally significant to mining in the local area and was the only F.E. Company dredge to operate in that mining district. Dredge No. 4 dug gold in Alaska for more than fifty years. With its machinery in place and in operable condition, Dredge No. 4 is an outstanding example of the engineering of a gold mining dredge that worked in Alaska.

Historic Background

Felix Pedro discovered gold on Pedro Creek north of today's Fairbanks, July 22, 1902. In the 1920s the Fairbanks Exploration Company (F.E. Company), a subsidiary of the Alaska division of the United States Smelting, Refining and Mining Company, acquired many claims in the Fairbanks area to work them with large-scale methods. In 1927 the company began operating dredges, employing as many as 1,372 people. After President Franklin Roosevelt increased the price of an ounce of gold from about \$28 an ounce to \$35 an ounce in 1935, the company expanded its operations. By 1940 the company had eight dredges in the Fairbanks area.

In spring 1938, the F.E. Company had Dredge No. 4 shipped in pieces from Oakland to Seattle on the S.S. *Point San Pablo*, then on an Alaska Steamship Company ship to Seward, and then on the Alaska Railroad to Fairbanks. The company assembled the dredge on Pedro Creek and started operating it July 11, 1938. The dredge worked on Pedro Creek, except when operations were suspended during World War II, until October 13, 1958.

Mining started in the Fortymile Mining District, in eastern Interior Alaska, with the discovery of gold on Franklin Gulch in 1886. A prospector, Bob Mathieson found gold on Chicken Creek in 1896. The community of Chicken became a hub of activity for the southern part of the Fortymile Mining District with 700 miners estimated to be mining in the area between 1896 and 1898. The population declined as miners left for the Klondike and gold discovery areas around Alaska, and as the richer deposits along the Fortymile creeks were worked out.

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In 1933, the F.E. Company had J.D. Crawford conduct a geological reconnaissance of the Fortymile, Sixtymile, and Seventymile mining districts in eastern interior Alaska. Based on his findings, the F.E. Company took options on 73 claims on Mosquito Fork and lower Chicken Creek from the Northern Commercial Company.

In 1940, the F.E. Company purchased the Nora Bench claim where Dredge No. 4 now stands. The company started constructing a camp. Gold mining ceased in the United States during World War II when an executive order ordered mines not essential to the war effort to stop operations. After the war the company resumed its operations. The company planned to convert a dredge acquired from the Northern Commercial Company for use in the Fortymile district, but with construction of the Taylor Highway around 1950, the company elected to move Dredge No. 4 from Pedro Creek to Chicken Creek.

In 1958-1959, the F.E. Company dismantled Dredge No. 4 on Pedro Creek and trucked it to Chicken where it was reassembled for a total cost of \$148,094. It was converted to diesel electric, and two Cat powered generators, a 30 kilowatt Hercules auxiliary generator, and an extra high pressure water pump were added. At a cost of \$25,000, the company installed a new bucket line on the dredge. Dredge No. 4 started digging on Chicken Creek September 13, 1959. It worked 1,127 days over the next eight years, processing 2,551,052 yards of gravel from which 75,377 troy ounces of gold bullion worth \$2,098,536, were recovered.

A rapid spring breakup flooded the dredge on April 25, 1961, while it was still frozen down. The main deck was covered with three feet of water. It took until May 7 to refloat the dredge. The flood damaged the electrical equipment and the dredge did not start operating that year until June 4.

In 1964 the F.E. Company only operated Dredge No. 4 and the Hogatzu Creek dredge. Three years later, on October 13, 1967, the company ceased all mining operations. High labor and operating costs combined with the price of gold still fixed at \$35 an ounce made gold dredging unprofitable. Dredge No. 4 was parked on a prepared ledge, the bucket line removed, and all openings securely covered. The company later sold its dredges and buildings.

Since 1967, Dredge No. 4 has been maintained by its owners and is in operating condition today. The owners plan to offer tours of the dredge to visitors during the summer months.

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Section photograph identification
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1. F.E. Company Dredge No. 4
Southeast Fairbanks, Alaska
Michael Busby
September 2005
4481 West Hill Road, Homer, Alaska 99603
Looking northeast at Dredge No. 4

2. F.E. Company Dredge No. 4
Southeast Fairbanks, Alaska
Michael Busby
September 2005
4481 West Hill Road, Homer, Alaska 99603
Looking east-southeast at Dredge No. 4

3. F.E. Company Dredge No. 4
Southeast Fairbanks, Alaska
Michael Busby
September 2005
4481 West Hill Road, Homer, Alaska 99603
Looking south-southeast at Dredge No. 4

4. F.E. Company Dredge No. 4
Southeast Fairbanks, Alaska
Michael Busby
September 2005
4481 West Hill Road, Homer, Alaska 99603
Looking west at Dredge No. 4

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section _____ Page _____

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SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 06000435

Date Listed: 5/18/2006

F. E. Company Dredge No. 4

Southeast Fairbanks AK

Property Name

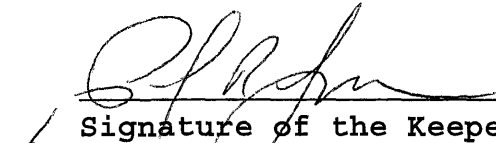
County

State

N/A

Multiple Name

This property is listed in deal in National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.


Signature of the Keeper

5/18/06
Date of Action

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Amended Items in Nomination:

Significance:

The period of significance should be revised to read: 1938-1967.
[Under Criterion C the appropriate period of significance normally coincides with the date of completion of an engineering structure. Likewise, under Criterion A, while the dredge's exclusive operation on Chicken Creek in the Fortymile district lasted from 1959-1967, it's earlier operation on Pedro Creek (as part of a larger contingent of operating dredges) is no less significant to the broad patterns of Alaska industrial history. The fairly limited number of such extant industrial properties provides sufficient justification for the entire period of historic use, highlighted by the final operations in far east-central Alaska. The use of such an extended period of significance also reduces the burden of documenting exceptional significance for a property attaining significance solely in the period less than 50 years ago.]

These clarifications were confirmed with the AK SHPO office.

DISTRIBUTION:

- National Register property file
- Nominating Authority (without nomination attachment)