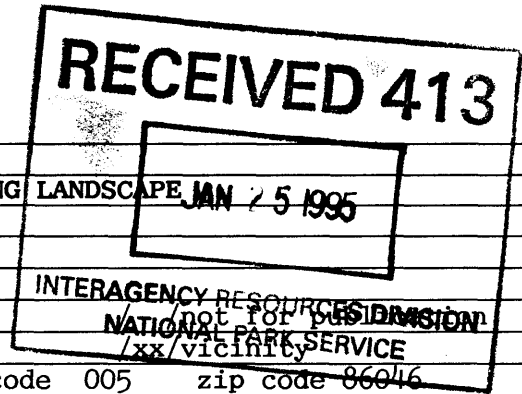


NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM



1. Name of Property

historic name **BARNEY FLAT HISTORIC RAILROAD LOGGING LANDSCAPE**
other names/site number **AR-03-07-01-1634**

2. Location

street & number
city, town **Williams**
state **Arizona** code **AZ** county **Coconino** code **005** zip code **86046**

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
<input type="checkbox"/> private	<input type="checkbox"/> building(s)		<input type="checkbox"/> buildings
<input type="checkbox"/> public-local	<input type="checkbox"/> district		<input type="checkbox"/> sites
<input type="checkbox"/> public-State	<input checked="" type="checkbox"/> site	<u>1</u>	<input type="checkbox"/> structures
<input checked="" type="checkbox"/> public-Federal	<input type="checkbox"/> structure	<u>1</u>	<input type="checkbox"/> objects
	<input type="checkbox"/> object	<u>2</u>	<input type="checkbox"/> Total

Name of related multiple property listing:

Number of contributing resources previously listed in the National Register 0

LOGGING RAILROAD RESOURCES OF THE COCONINO AND KAIBAB NATIONAL FORESTS, ARIZONA

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this 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 meets does not meet the National Register criteria. See continuation sheet.

Wan J. A. Boris Signature of certifying official 1-5-95 Date

USDA - Forest Service Historic Preservation Officer

In my opinion, the property meets does not meet the National Register criteria. See continuation sheet.

James W. Gamm Signature of certifying official September 15, 1994 Date

ARIZONA STATE PARKS Arizona State Historic Preservation Officer

5. 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:)

Edson H. Beall 2/24/95

Entered in the National Register

for Signature of the Keeper Date of Action

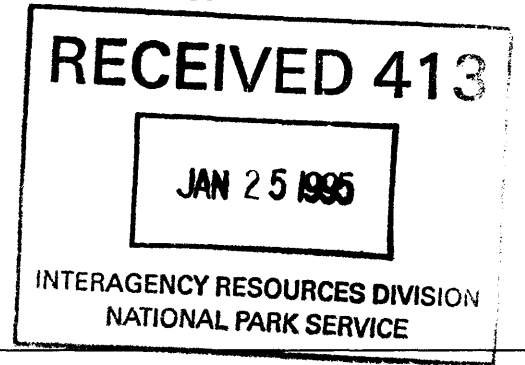
6. Function or Use	
Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
INDUSTRY--railroad logging	LANDSCAPE--forest

7. Description	
Architectural Classification (enter categories from instructions)	Materials enter categories from instructions)
N/A	foundation
	walls
	roof
	other <u>ponderosa pine railroad ties</u>

Describe present and historic physical appearance.

Barney Flat Historic Logging Landscape is a forty acre area situated at the base of Barney Knoll about seven miles south of Williams, Arizona. The area, named for early-day rancher George Barney, is on the east side of the Perkinsville Road at an elevation of 7,040 feet. The slopes of Bill Williams Mountain are located to the northwest. The site is dominated by some 290 ponderosa pine stumps interspersed with about 44 live ponderosa pine trees. An intermittently flowing unnamed drainage within a small meadow (the "Flat") runs from southeast to northwest through the center of the site. The meadow is planted with grasses such as red fescue, spike muhly, western wheatgrass, and blue grama. Remains of a logging railroad and associated features run parallel to the drainage. The stumps bear testimony to intensive logging that occurred here sometime between 1899 and 1902, and demonstrate the lack of regeneration since that time.

The landscape at Barney Flat evolved over a period of many decades--perhaps centuries. The major factor affecting its vegetation is cold air flowing down the slopes of Bill Williams Mountain into the drainage. This creates a frost pocket in colder months that freezes young trees before they can become established. Another factor discouraging growth is the high water table in the meadow, which drowns tree roots. Forest fires swept through the area periodically, further reducing tree survival. These factors resulted in a landscape that was once absent of trees. Through time, a series of favorable random events likely created a warmer microclimate that allowed trees to gradually become established. As trees began to survive in the frost pocket, they slowly changed the microclimate, warming the immediate area and "nursing" additional trees. As new trees grew, they lowered the water table, decreasing the likelihood of drowning tree roots. In this way, a stand of ponderosa pine expanded downslope from Barney Knoll into the formerly barren flat, although they never did become established in the drainage channel (John Holmes 1993: personal communication).

United States Department of the Interior
National Park ServiceNATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEETSection number 7 Page 2

When Saginaw-Manistee Lumber Company loggers arrived at the site sometime between 1899 and 1902, they found a well-stocked stand of ponderosa pine ranging in age from about 150 to 300 years, with some other trees still too young to cut. A circa 1900 photograph of a loaded Saginaw-Manistee train (Photo 1) on the Saginaw Southern line illustrates the typical size of logs from the area. Today, the stumps measure an average of 22 inches in diameter (the range is from about 11 inches to 42 inches), but they were originally several inches larger, since the sapwood has decayed and only the heartwood remains. The stumps clearly display the undercut that was first chopped with an axe to guide the direction of the fall (Photo 5). The trees were then cut at about waist-height using a two-man cross-cut saw (Photo 2 depicts felling by teams of men using cross-cut saws). Probably within a matter of weeks, loggers cut every tree, except those that were too small or diseased to be merchantable. This left a clear cut and devastated landscape that would probably never be the same.

Soon after the loggers left, Barney Flat became established as part of the Bear Springs Sheep Driveway and tens of thousands of sheep were driven annually down the corridor to winter pastures. In 1919, a series of favorable climatic events brought about a new seed crop of ponderosa pines across northern Arizona. By this time, the Forest Service was aggressively fighting forest fires in the area. All of these factors encouraged tree growth. Trampling by sheep and cattle probably cultivated the land for the 1919 seed crop, and the trees left behind by the loggers helped to nurse young seedlings. Fire suppression allowed them to grow. The slope above the frost line quickly regenerated and today is probably denser in vegetation than it ever was. However, because of the extreme change of microclimate in the Flat caused by the clear cut, very few trees have regenerated there and it may be many more decades before they do. The Forest Service attempted to regenerate this site in 1978. They plowed and planted two year old seedlings in the furrows, but the trees did not survive the first winter. Most of the live trees in the Flat were left behind by the loggers as too young to cut. The process of regeneration here will be very slow indeed.

The remains of the Saginaw Southern Railroad (the contributing structure) found here directly associate the site with railroad logging. Although the rails were removed upon abandonment in 1904, many of the ties are still in place or near their original location. Where ties are missing, the raised earthen berm reveals the alignment. In other places, both have been washed away by intermittent flooding (see site map). The ties are made of ponderosa pine and measure 8 feet in length. Judging from the spike holes for rails, the ties held standard gauge rails, spaced 4 feet 8 1/2 inches apart.

Features of unknown function are located adjacent to the railroad line. These consist of a line of five logs set about 18 feet (5.5 meters) apart. One of these logs has a matched log parallel to and about 20 feet (6.2 meters) east of it (Photo 8). These logs have two notches, one at each end. A similar matched pair is located

SEE CONTINUATION SHEET

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section number 7 Page 3

in the southeast area of the site (see site map). The other logs in the row may have also had notches and paired logs, but they are now very deteriorated. These probably represent a log landing, used to store logs prior to loading on the train. They could have functioned as storage for rail cars, or were possibly used in the production of railroad ties. They might have been foundations for worker's shelters, although this does not appear to be the location of a logging camp due to the absence of trash. However, in the late 1930s-early 1940s, a Civilian Conservation Corps camp was located just south of this site, and any camp trash might have been removed at that time. A few metal artifacts are found adjacent to the line: mostly spikes and rail fastenings, but some are unidentified. Overall, the site displays a paucity of artifacts, consisting mainly of scattered metal and an occasional glass fragment.

Integrity

Although the Saginaw Southern rails ran right through the drainage, resulting in partial erosion of the berm, and the site was plowed as part of a 1978 regeneration project, it is in an excellent state of preservation. However, the site has been threatened with destruction in recent years.

About a decade ago, a proposal was brought forth to "mine" these stumps and others on the Coconino and Kaibab National Forests for turpentine production. An ad hoc group called "Save Our Stumps (SOS)" formed to oppose the plan, primarily because of environmental concerns (Peter J. Kahon: personal communication, 1993). They halted the proposal then, but it could be brought forward again in the future. About a half dozen stumps have been sawed to the ground, presumably for the resin-laden heartwood, which makes excellent kindling. More recently, the Forest Service proposed to remove the stumps to restore the landscape to a natural appearance. Once information on the history and interpretive potential of the site was communicated to project managers, the proposal was dropped.

The Multiple Property Documentation Form ("Logging Railroad Resources of the Coconino and Kaibab National Forests, Arizona") defined the following registration requirements for rural historic landscapes: "1) The property must not predate the era of railroad logging [and] . . . 2) The property must exhibit the character defining elements of a clear cut area: that is, there must be no tree regeneration within its boundaries" (Stein 1993: F15 and F16). Integrity of association, workmanship, setting, and feeling are considered most important for historic landscapes. Under these criteria, the site certainly exhibits qualities that merit National Register listing.

Barney Flat Historic Logging Landscape conveys in a dramatic way the effects of turn-of-the-century railroad logging practices. In other areas of the Kaibab National Forest, high stumps can still be found, but most are now surrounded by regenerated stands of ponderosa pine. With the lack of regeneration here, one can almost imagine having arrived on the scene soon after the last log was loaded on the train.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

nationally statewide locally

Applicable National Register Criteria A B C D

Criteria Considerations (Exceptions) A B C D E F G

Areas of Significance (enter categories from instructions) Period of Significance Significant Dates

INDUSTRY circa 1899-1902 _____
AGRICULTURE _____ _____

Cultural Affiliation
N/A

Significant Person Architect/Affiliation
N/A N/A

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

Barney Flat Historic Railroad Logging Landscape is a remarkable remnant of early railroad logging and a visible reminder of how human activity can drastically affect ecosystems. It is a legacy of the logging industry that operated without Federal control or regulations in northern Arizona at the turn-of-the-century.

The history of railroad logging in northern Arizona is summarized in the Multiple Property Documentation Form and need not be repeated in great detail here. In 1898, the lands surrounding Williams, Arizona were set aside as part of the San Francisco Mountain Forest Reserve, but the Reserve included only even-numbered sections. Congress had earlier granted all odd-numbered sections to the Atlantic and Pacific Railroad to finance construction of the 1882 transcontinental rail line. Barney Flat was located within an odd-numbered railroad section. The railroad sold the timber rights to its odd-numbered sections to the Saginaw Lumber Company, which had relocated to Williams from Michigan in 1893. They built a large sawmill in Williams and in 1898 financed the Saginaw Southern Railroad Company. By January of 1899, eleven miles of track had been laid south from Williams. In 1899, the Saginaw Lumber Company merged with another Michigan firm and became known as the Saginaw-Manistee Lumber Company. New capital brought improvements to their mill and a larger work force, initiating intensive timber cutting from their lands (Putt 1991). The lumber industry had a profound effect on the settlement and growth of Williams and northern Arizona. It also left its mark on the area's ecosystems.

A government document reporting on a 1901-2 inventory of the San Francisco Mountain Forest Reserve described logging practices as being based on profit and convenience. Cutting was, not surprisingly, most intensive near railroad lines and resulted in the removal of all merchantable timber in the first cutting, leaving only small trees of no commercial value. The report demonstrated the need for consolidation of the

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section number 8 Page 2

Reserve and initiation of regulations that would provide for sustained yield (Leiberg, Rixon, and Dodwell 1904--summarized in Putt 1991: 34). In 1902 the Federal government consolidated the odd- and even-numbered sections in the San Francisco Mountain Forest Reserve. Even so, the Saginaw-Manistee Lumber Company retained its timber rights until 1950.

The Forest Reserve became the Coconino National Forest in 1908, and the western part of the Coconino was renamed the Tusayan National Forest in 1910. Foresters finally began to implement regulations on the ground, although it was by then too late for the Barney Flat area. The area south of Williams accessed by rail had already been cut by 1903, and the Saginaw Southern rails were abandoned and removed by 1904 (Stein 1993: E15-16; Putt 1991: 100). A timber atlas map dating to the 1920s indicates that Barney Flat and the area around it were cut prior to 1902 (Figure 1).

Today, a drive down the Perkinsville Road reveals a graphic reminder of the early days of logging. The high-cut stumps, some 290 in number, show that the trees were cut with two-man cross-cut saws. They stand alone in the meadow due to the lack of regeneration. The remains of the Saginaw Southern Railroad line indicate the means by which the logs were removed.

Barney Flat Historic Railroad Logging Landscape is significant under Criterion A for the following reasons:

First, it is evidence of presettlement forest conditions. The stumps indicate the size and distribution of a stand of trees that began growing as early as AD 1600, and perhaps earlier. The stand was the culmination of a gradual process of generation into a "cold sink" that took several hundred years and fortunate climatic conditions to occur.

Second, the site is evidence of early day timber practices, before the principles of sustained yield could be applied by trained foresters. The trees were cut for an industry that had tremendous impact on the settlement and growth of Williams and northern Arizona. Unfortunately, that industry did not employ conservation practices that would have allowed it to operate indefinitely. By 1942, the Saginaw-Manistee Lumber Company had to close its Williams mill because of dwindling timber supplies, and even today the Forest has not recovered from the "cut-and-run" practices of the early days.

Third, the site illustrates the profound effect that humans can have on microclimates, and therefore the landscape. When the Barney Flat timber stand was clear cut, the cold air sink was reestablished because large trees no longer warmed the air and protected young seedlings. Attempts to artificially regenerate the stand have proven unsuccessful. It may be centuries before tall ponderosa pine again grace Barney Flat.

SEE CONTINUATION SHEET

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section number 8 Page 3

The long term plan for this site is to make it a stop on a "Historic Logging Railroad Auto Tour." Its location along the Perkinsville Road, a paved County highway, is ideal for access. The site can be used to tell the story of past logging practices, and contrast the past with present-day use of ecosystem management techniques. Barney Flat Historic Logging Railroad Landscape provides a dramatic look into the past that can help us understand the effect of humans on complex natural systems.

9. Major Bibliographical References

SEE CONTINUATION SHEET

Previous documentation on file (NPS):

- 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 hist. preservation office
 Other State agency
 Federal agency
 Local government
 University
 Other

Specify repository:

Kaibab National Forest

10. Geographical Data

Acreage of property 40

UTM References

A	<u>1 2 </u>	<u>3 9 5 4 6 0 </u>	<u>3 8 9 0 6 0 0 </u>	B	<u>1 2 </u>	<u>3 9 5 2 6 0 </u>	<u>3 8 9 0 9 0 0 </u>
	Zone	Easting	Northing		Zone	Easting	Northing
C	<u>1 2 </u>	<u>3 9 5 3 6 0 </u>	<u>3 8 9 1 2 6 0 </u>	D	<u>1 2 </u>	<u>3 9 5 4 8 0 </u>	<u>3 8 9 1 2 8 0 </u>
	Zone	Easting	Northing		Zone	Easting	Northing
E	12	395600 E	3890960 N	F	12	395620 E	3890840 N
G	12	395680 E	3890580 N	H	12	395600 E	3890540 N

Verbal Boundary Description

The boundary is shown on the accompanying USGS quad map. Beginning at a point along the east edge of the Perkinsville Road crossed by triple concrete culverts, proceed north along the road for 1,200 feet, proceed northeast at an angle of 12 degrees to a fenceline, proceed east along the fenceline for about 180 feet to the 7040 elevation level (this roughly corresponds with treeline), proceed south along the treeline to a point just north of an unnamed drainage, proceed in a direction of approximately 240 degrees to just south of the drainage, and then proceed approximately 290 degrees west back to the starting point.

Boundary Justification

The boundary includes the majority of unvegetated logging landscape up to the treeline. The landscape includes the logging railroad and associated features, as well as the unnamed drainage in Barney Flat.

11. Form Prepared By

name/title	<u>Teri A. Cleeland / Forest Historian</u>	date	<u>December 20, 1993</u>
organization	<u>USDA Kaibab National Forest</u>	telephone	<u>(602) 635-2681</u>
street & number	<u>800 S. Sixth St.</u>	state	<u>AZ</u>
city or town	<u>Williams</u>	zip code	<u>86046</u>

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section number 9 Page 1

References Cited

John Holmes, Williams Ranger District Silviculturist, on site interview 8/93.

Peter J. Kahon, Williams District Ranger, on site interview 8/93.

Leiberg, John B., Theodore F. Rixon, and Arthur Dodwell
1904 "Forest Conditions in the San Francisco Mountain Forest Reserve, Arizona."
Professional Paper 22 (Series H, Forestry 7), Washington, D.C.: USDI.

Putt, Patrick J.
1991 "South Kaibab National Forest: A Historical Overview." Ms. on file, Kaibab
National Forest, Williams, Arizona.

Stein, Pat
1993 "Logging Railroad Resources of the Coconino and Kaibab National Forests,
Arizona." Multiple Property National Register Form on file at the Kaibab
National Forest, Williams, Arizona.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

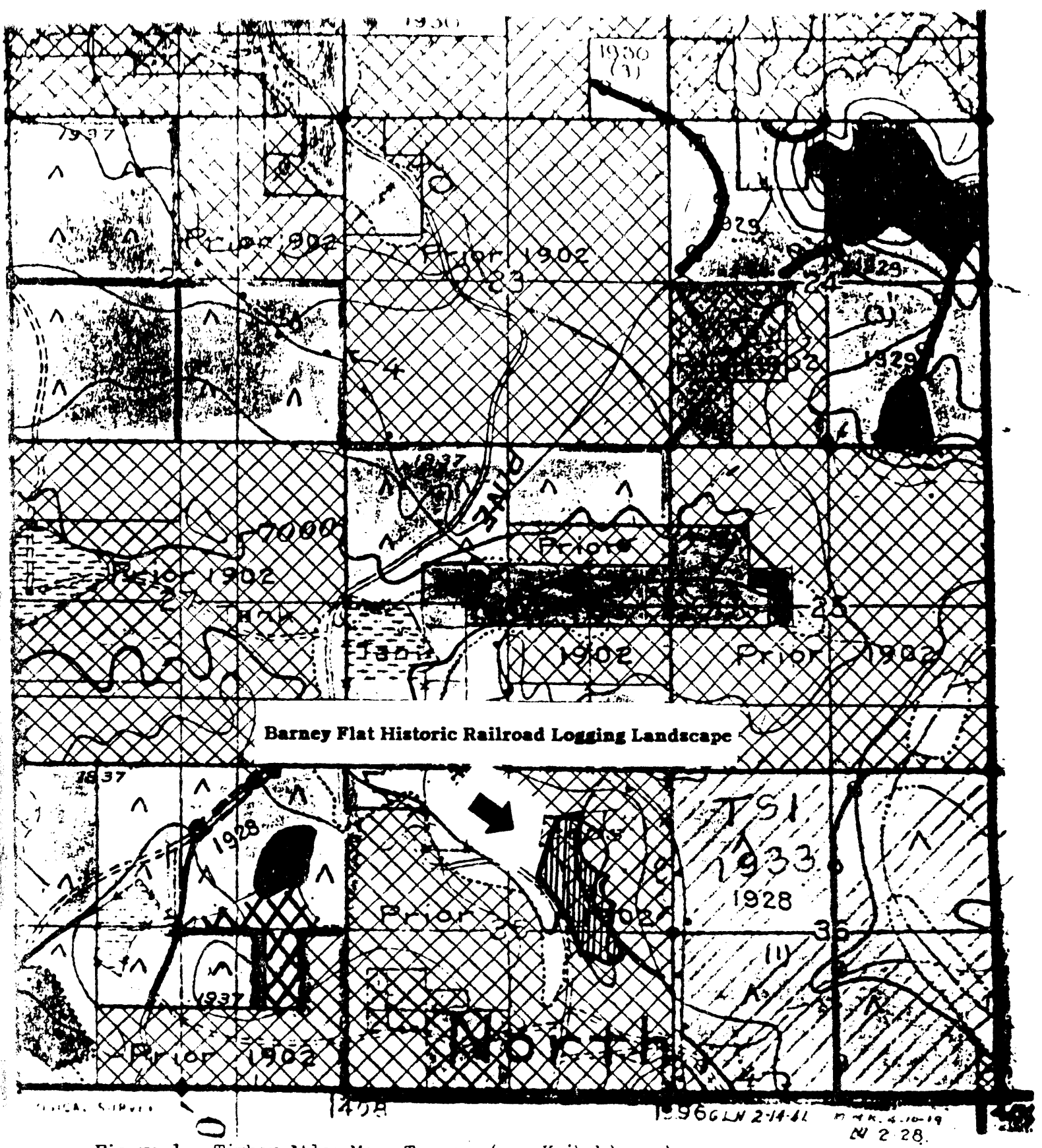
PHOTOGRAPHS

- 1) Barney Flat Historic Railroad Logging Landscape
- 2) Kaibab National Forest, Arizona
- 3) Unknown
- 4) circa 1899-1902
- 5) National Archives negative number 48-RST-4C-2
- 6) Two Shay locomotives on the Saginaw Southern Railway, headed north towards the Williams mill.
- 7) 1

- 1) Barney Flat Historic Railroad Logging Landscape
- 2) Kaibab National Forest, Arizona
- 3) Unknown
- 4) circa circa 1910s
- 5) Special Collections and Archives Department, Northern Arizona University
- 6) Teams of men using crosscut saws to produce high stumps.
- 7) 2

THE FOLLOWING INFORMATION IS THE SAME FOR ALL SUBSEQUENT PHOTOGRAPHS

- 1) Barney Flat Historic Railroad Logging Landscape
- 2) Kaibab National Forest, Arizona
- 3) Teri A. Cleeland
- 4) August, 1993
- 5) Kaibab National Forest Supervisor's Office, Williams, Arizona
- 6) Overview of a portion of the site facing east. Perkinsville Road is in the foreground, unnamed drainage in middleground, stumps in rear, in front of regenerated ponderosa pine located above the frost line.
- 7) 3
- 6) Site, facing north towards Bill Williams Mountain.
- 7) 4
- 6) Site, facing south. Snag and live tree are match point to photo #4.
- 7) 5
- 6) High stump, showing the undercut that was chopped with an axe to guide the direction of the fall.
- 7) 6
- 6) Remains of the Saginaw Southern Railroad line: berm foreground, ties in distance.
- 7) 7
- 6) Associated notched log features of unknown function. Perkinsville Road in rear.
- 7) 8

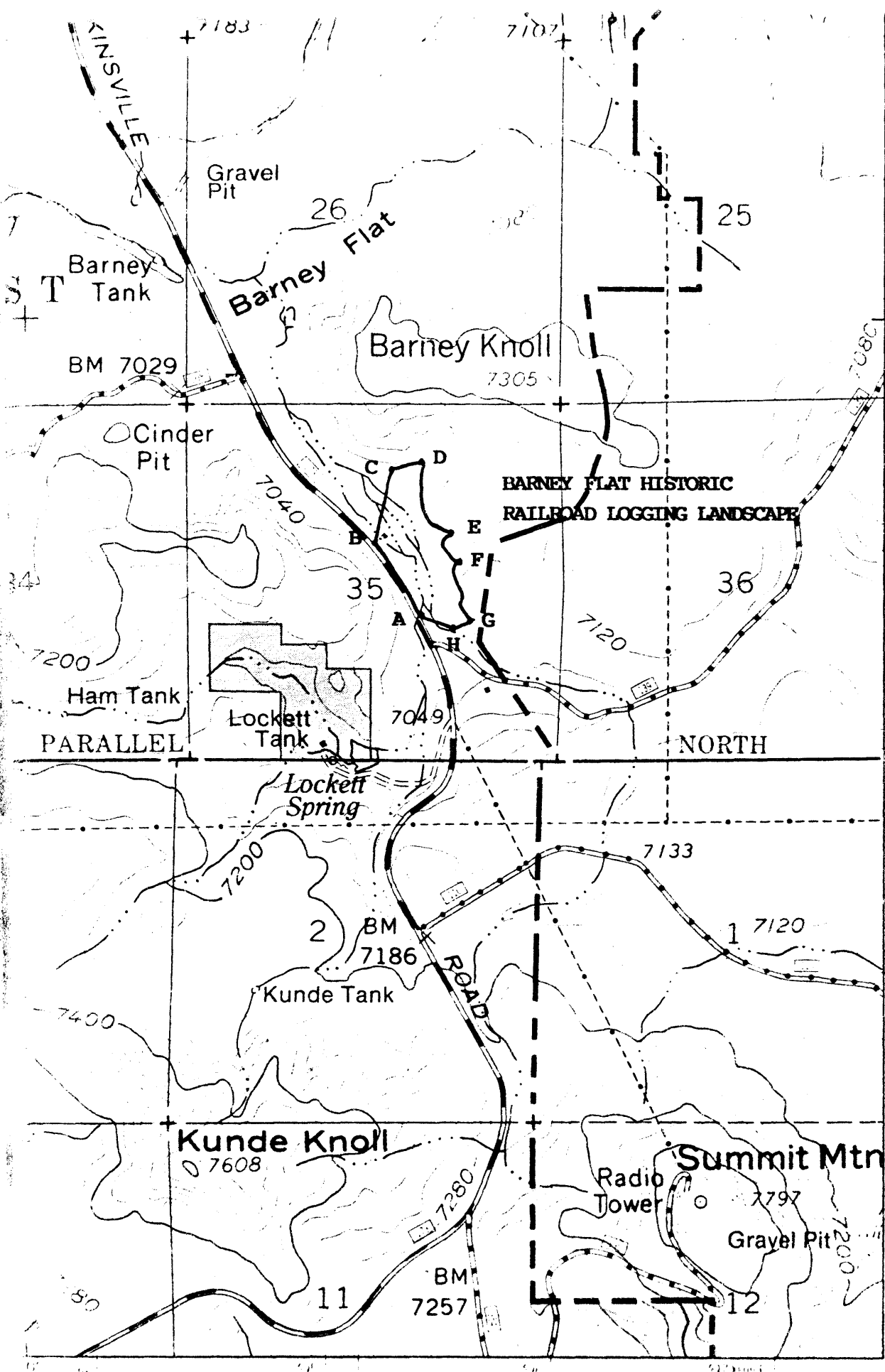


Barney Flat Historic Railroad Logging Landscape

Figure 1. Timber Atlas Map, Tusayan (now Kaibab) National Forest, 1925, showing location of the Barney Flat Historic Railroad Logging Landscape in relation to lands cut prior to 1902 (cross-hatched areas). TSI=timber sale improvement work (revegetation) carried out by the Civilian Conservation Corps.

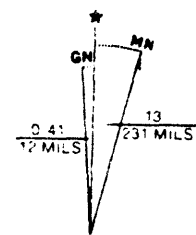
TUSAYAN

*Corrected to Jan 1, 1925
Feb 1, 1927 14*



UTM COORDINATES

- A: 395460 E 3890600 N
- B: 395260 E 3890900 N
- C: 395360 E 3891260 N
- D: 395480 E 3891280 N
- E: 395600 E 3890960 N
- F: 395620 E 3890840 N
- G: 395680 E 3890580 N
- H: 395600 E 3890540 N



UTM GRID AND 1986 MAGNETIC NC DECLINATION AT CENTER OF SHE

112°37'30"

111°45'

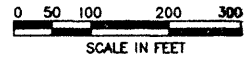
35°37'30"

BARNEY FLAT HISTORIC RAILROAD LOGGING LANDSCAPE

Kaibab National Forest, Arizona

LEGEND

- X Ponderosa Pine Tree
- Stump
- x-x- Barbed-Wire Fence
- Treeline
- ◁ #4 Photo Point (No. & Direction)
- - - Drainage
- - - - - Eroded Railroad Grade
- - - - - Railroad Berm
- - - - - Railroad Tie



F (Approx. UTM Datum Point)

"Log Features"

