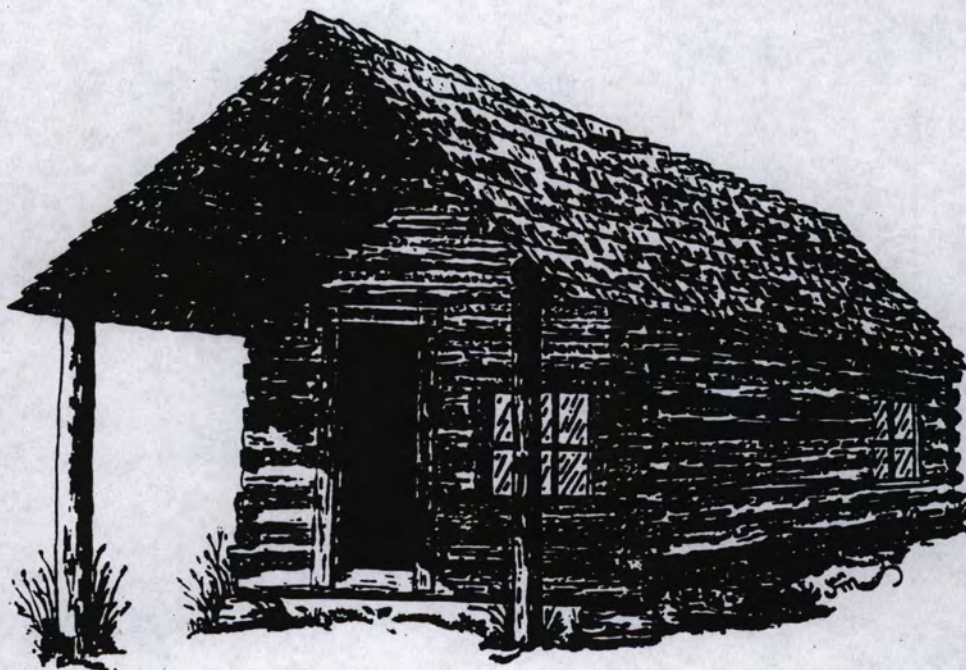


METALLIC GUN CARTRIDGE CASES FROM THE
HISTORIC HAYS GUARD STATION
USDA, IDAHO NATIONAL FOREST

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Hays Station is a United States Department of Agriculture Forest Service administrative site located on the Payette National Forest, Idaho. This historic site is situated on the southern aspect of China Mountain at 4880 feet above sea level. The station occupies one of the few level areas on the mountain's slope. Before Hays Station was constructed, Chinese occupied the site. Artifacts of Chinese manufacture were found consisting fragmented utilitarian items of brown glazed pottery; blue flower ware; Celadon ware; Four Seasons ware; ceramic pipe bowl fragments; brass opium container and a coin of the Tao Kwong reign minted circa 1821 to 1850 (Kingsbury 1990). Another Chinese site located one and a half miles downslope from the station is where Ah Toy had a vegetable garden and semi-subterranean shelter (Kingsbury 1989). Ah Toy occupied his garden area around circa 1880 to 1910 (Kingsbury 1994:5). These Chinese sites including the Hays Station were listed on the National Register of Historic Places on June 27, 1990 (Reed 1989).

The agricultural land surrounding the station at one time probably encompassed about twelve cleared acres and consists of three areas where there once were irrigated vegetable garden plots. Shallow irrigation ditches can be seen in the area of one garden plot including what is considered as the hay field. One rectangular garden area is leveled enough to have been flood irrigated. Also within the area there are two collapsed root cellars, a leveled area where there was once a log barn and the standing reconstructed log cabin here referred to as Hays Station. Also on site is a 1989 newly constructed semi-subterranean dwelling replicated to look like Ah Toy's reconstructed semi-subterranean dwelling located downslope. In 1994 a wildfire burned through the area of Ah Toy's site completely burning the structure and ground cover. USDA Forest Service fire fighters saved the Hays Station, the Ah Toy replicated dwelling and the interpretive signs from the wildfire. The wildfire also removed the forest duff and vegetation making visible the garden terraces and shallow irrigation network at Ah Toy's site as well as at Hays Station.

Sometime after 1890 the Chinese gardeners left the Hays Station area, Charles B. Hayes settle on the partially developed agricultural land around 1902. Hayes gave his land rights to the USDA Forest Service on June 30, 1908 to the newly reorganized Idaho National Forest. This same area was once part of the Payette Forest Reserve in circa 1906. Hays Station carries Mr. Hayes' name. However, over the years the "e" in Hayes has been lost. Hays Station served as a Ranger Station for the Warren District of the Idaho National Forest from 1908 to 1918. In 1913, a fire ignited within the building completely burned the cabin built by Charles Hayes. Forest Service personnel constructed another cabin on the same spot in 1913. This is the cabin that remains on-site today.

By 1918 the Forest Service abandoned Hays Station and set up another Ranger Station on the edge of the Warren, Idaho townsite. From 1918 thru the 1950's unauthorized occupants and hunters occupied and used Hays Station periodically until the cabin fell into ruins. Hays Station is the oldest standing USDA Forest Service building remaining on the Payette National Forest. Today, it is a historic interpretive site.

It was during the reconstruction of the Hays Station cabin in 1988 that the cultural deposits in the floor and under the log walls and two feet outside of the walls were excavated. This excavation was done so as to remove vegetation and overburden so as to create space to raise the log walls and replace decayed sill and spandrel logs and floor. The building was raised one foot above the ground level and placed upon rock piers. With this done, air could circulate under the cabin to discourage wood decay, insect and rodent damage. The burnt trash midden under the cabin measured 24 feet north to south by 16 feet east to west. Exterior wall measurements of the present cabin are 21 feet 5 inches north to south by 15 feet 4 inches east to west. All of the trash midden was removed with shovels and processed through a 1/4 inch dry shaker screen.

All recovered artifacts were quantified and tabulated. The midden predominantly consisted of burnt remains from the 1913 cabin fire. Overlying the burnt horizon was a layer of decayed wood that once was a tongue & groove floor, overlaid with organic compost deposited from livestock. Sometime during the 1950's this cabin was used as a horse barn (Hooper 1990). The livestock churned, mixed and compressed the decayed floor and mixed the artifacts into a midden. The average depth of the midden was 6 inches with a maximum 9 inch depth at the center of the midden. The recovered cultural materials consisted of the following:

Partially oxidized, burnt, bent wire & machine cut nails	21 pounds 13 ounces
Partially oxidized and burnt assorted metal objects	2 pounds 3 ounces
Flattened and burnt metal can fragments	10 ounces
Melted glass fragments of assorted colors	14 pounds 3 ounces
Burnt crockery fragments	11 pounds 9 ounces
Butchered and burnt bone elements	1 pound 3 ounces
Cartridges and bullets	2 pounds 4.5 ounces

There was also an assortment of unburnt artifacts left in the ruin that post dated the 1913 fire. This report only pertains to the metallic gun cartridge cases described and illustrated in the following pages.

Metallic gun cartridge cases are usually found in 19th century historic sites in the American West. The headstamp markings on the cartridge cases provide a means for determining the type of gun used and date when the cartridge was manufactured. Cartridge cases can be used to date the activity that took place at a historic site. For example, the .32-40 cartridge was most often used in the single shot rolling block sporting rifle Number 1, introduced in 1871 to 1872. Remington Gun Company quit producing this cartridge sometime after 1910 (Barnes 1980:97). This cartridge became obsolete after about a 40 year period, thus providing a time marker in dating a historic site.

The majority of cartridge cases found in the floor midden at Hays Station had undergone some degree of corrosion due to the 1913 fire and subsequent oxidation caused from livestock effluent. USDA Forest Service records reveal that the original 20 by 26 foot two room log cabin was constructed around 1902, and burned to the ground in 1913. Thus, the burnt trash midden represents eleven years of occupation from 1902 to 1913. The cartridges that had burnt or partially oxidized were measured in order to determine caliber. A sliding caliper of 1/1000 inch scale was used to measure each cartridge case. Measurements were taken of the interior bullet chamber and length of the cartridge case.

Two types of metallic cartridge cases were recovered from the floor midden and consisted of: 1) Rimfire and 2) External Centerfire. The former is fired by a primer located in the center of the case rim. The rimfire has a priming compound distributed around the entire inside of the rim's outer diameter (Barnes 1980:9). The following pages describes each type of metallic gun cartridge including caliber, manufacturer's headstamp and brief historical notes.

RIMFIRE METALLIC CARTRIDGE CASES

.22 Short Super X, (Figure 1 a), Western Cartridge Company
Period of manufacture: 1900 to present
Number of cartridges: 1

.22 Long Rifle H, (Figure 1 b), Winchester Repeating Arms Company
Period of manufacture: 1917 to present
Number of cartridges: 1

.22 Long Rifle U, Figure 1 c), Union Metallic Cartridge Company
Period of manufacture: 1890 to present
Number of cartridges: 1

.22 Long Rifle US, (Figure 1 d), United States Cartridge Company
Number of cartridges: 1

.22 Long Rifle Super X, (Figure 1 e), Western Cartridge Company
Period of manufacture: 1900 to present
Number of cartridges: 1

.22 Long Rifle C, (Figure 1 f), CCI Omark Industries, Lewiston, Idaho.
Number of cartridges: 3

.22 Extra Long H, (Figure 1 g), Winchester Repeating Arms Company
Period of manufacture: 1880 to present
Number of cartridges: 1

EXTERNAL CENTERFIRE CARTRIDGES

.22 High Power USC CO (Figure 1 h). United States Cartridge Company
Number of cartridges: 1
Historic Notes: This type of cartridge was introduced by Savage Arms Company in their Model 99 lever action rifle at about 1912. The .22 Savage High Power was popular during the 1900's (Barnes 1980:89).

.25-20 WRA CO (Figure 1 i). Winchester Repeating Arms Company and REM UMC, Remington Union Metallic Cartridge Company.
Number of cartridges: 2 burnt
The illustrated cartridge has the unfired primer and a portion of the lead bullet intact.
Historic notes: The .25-20 single shot rifle first appeared about 1882. No commercial rifles have been available for this cartridge since the late 1920's (Barnes 1980:90). Sears, Roebuck & Company has this cartridge advertised in their Fall 1900, Consumers Guide (1900:380).

.30-30 WIN Super Speed (Figure 2 J). Winchester Repeating Arms Company.
Number of cartridges: 6
Historic Notes: The .30-30 has long been the standard American deer rifle cartridge. It was designed by Winchester and marketed in early 1895 as one of the calibers available for the Model 94 lever action rifle (Barnes 1980:48).

.30-06 REM UMC 1906 (Figure 2 k). Remington Union Metallic Cartridge Company.
Number of cartridges: 1 cartridge and 3 jacketed burnt bullets without lead.
Historic notes: The United States Military adopted this cartridge in 1906 for the model 1903 Springfield service rifle (Barnes 1980:52).

.32 Ballard Extra Long WRA CO (Figure 2 l). Winchester Repeating Arms Company. Number of Cartridges: 1 burnt cartridge containing a primer and a portion of lead bullet within the cartridge. One .32 caliber jacketed lead bullet was also recovered. Reference, Barnes 1980:95).

.32-40 High Power UMC (Figure 2 m). Union Metallic Cartridge Company, before the merger with Remington, 1867 to 1902).

Number of cartridges: 3 burnt.

Historic notes: Remington produced this cartridge for the single shot rolling block Sporting Rifle No. 1, introduced in 1870. This cartridge appears to have been introduced shortly after the rifle in about 1871 to 1872. Remington quit producing this cartridge sometime after 1910 (Barnes 1980:97). Only one cartridge is in fairly good condition and clearly reveals the "tapered neck" case. Sears, Roebuck and Company has this cartridge advertised in their Fall 1900, Consumers Guide (1900:381).

.38 Automatic WRA, (Figure 2 n). Winchester Repeating Arms Company.

Number of cartridges: 1 cartridge and 4 jacketed bullets.

Historic notes: This cartridge was designed by John Browning and introduced by Colt in 1900 for the .38 automatic pistol. This cartridge was designed for the type of pistol used by the military (Barnes 1980:178).

.38-55 Ballard, Marlin and Winchester single shot rifles (Figure 2 o).

Number of cartridges: 1

Historic notes: The .38-55 caliber was originally a Ballard developed target cartridge. The present commercial version was introduced in 1884. No commercial rifles have been available since Winchester dropped the .38-55 from the Model 94 list of calibers at about 1940 (Barnes 1980:75). Sears, Roebuck and Company has this cartridge advertised in their Fall 1900, Consumers Guide (1900:381).

.40 caliber impacted lead bullet. No metallic cartridge was found in association with this bullet.

.44 WRA CO, Winchester Repeating Arms Company.

Number of cartridges: 2 incomplete and not illustrated.

Historical notes: The .44 Long centerfire was introduced in 1875 - 1876 as one of the calibers for the Marlin Ballard Sporting Rifle (Barnes 1980:115).

.45 Colt WRA CO (Figure 3 p). Winchester Repeating Arms Company.

Number of cartridges: 2

Historic notes: This cartridge was introduced by Colt in 1873 as one of the cartridges to be used in their famous "Peacemaker" six-shooter revolver. Both the revolver and cartridge were adopted by the US Army in 1875. The .45 Colt served as the Army's official handgun caliber until 1892 (Barnes 1980:187). Sears, Roebuck and Company has this cartridge advertised in their Fall 1900, Consumers Guide (1900:381).

.45 Automatic WRA CO (Figure 3 q). Winchester Repeating Arms Company.

Number of cartridges: 3

Historic notes: This cartridge was developed by John Browning in 1905 and adopted by the United States Ordnance Department with the Colt-Browning automatic pistol in 1911 (Barnes 1980:186).

.45-70 US Government WRA (Figure 3r). Winchester Repeating Arms Company.

Number of cartridges: 14

Historic notes: This cartridge was adopted by the United States Military in 1873 with the single shot "Trapdoor" Springfield rifle (Barnes 1980:81). All of the 14 burnt cartridges were found in a bunch buried in the dirt floor against the west wall of the Hays Station.

.12 gauge #10, Union UMC (Figure 3 s). Union Metallic Cartridge Company.

Number of cartridges: 1 burnt cartridge without the paper tube.

Historic notes: This is the most popular and widely used shotgun gauge in the United States (Barnes 1980:304).

CULTURAL INFERENCES

A total of fourteen different cartridges have been described from the Hays Station. Headstamps reveal that six American manufactures produced all of the cartridges. The Winchester Repeating Arms Company produced the majority of the metallic cartridges found at Hays Station.

Eight cartridge types were exclusively made for rifles and these calibers included the .22 High Power; .25-20; .30-30; 30-06; .32; .32-40; .38-55 and the 45-70.

Three of the cartridges were exclusively made for pistols and included the .38 and .45 automatics and the .45 Colt. Two types of cartridges that can be used in rifle and pistol include the .22 and .44 calibers. Unfortunately, the .44 caliber cartridges are too deteriorated to determine if these cartridges were used in pistol or rifle.

The 12 gauge cartridge was made for the shotgun and once contained #10 buckshot.

It can be surmised that at one time there were many different types of guns used or brought to Hays Station. Based upon the types of cartridges found at the station we can speculate that eight to ten different rifles and three to five different pistols and one shotgun had been carried onto the site. With the exception of the CCI and Super X, .22 caliber rimfire ammunition, all of the other cartridges appear to date to the period from 1872 to about 1940.

In using the Barnes 1989 reference, Cartridges of the World, one can see an illustration of the rifle and/or pistol that was used with the above mentioned metallic gun cartridges. With having the ability to identify metallic gun cartridges and bullets, one can recreate an historic event. For example, in 1989, John F. Taylor, archaeologist with the USDI Bureau of Land Management found a site on the plains of Montana where a buffalo hunter had a "stand." The stand was where the hunter found an elevated place to shoot and kill buffalo from. All that remained on the site were 14 brass metallic cartridges that were made to fit the Sharps single shot rifle preferred by buffalo hunters. One can surmise that from that hilltop the marksmen killed a few buffalo sometime prior to 1885 when the last of the great bison herd on the American Plains were wiped out forever.

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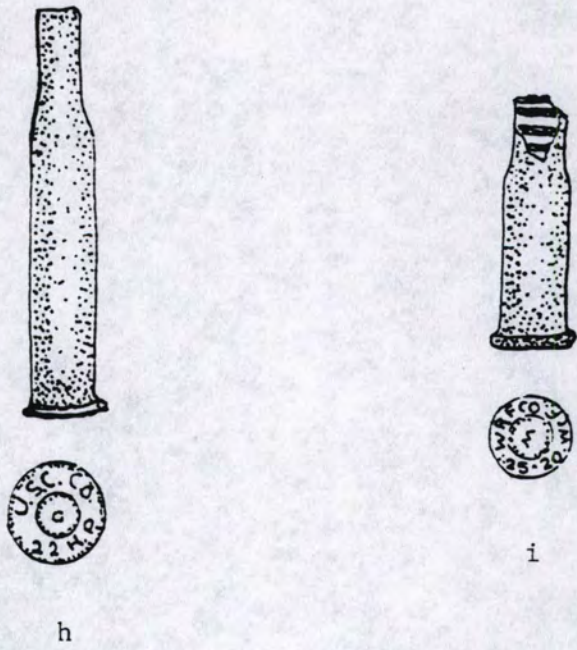
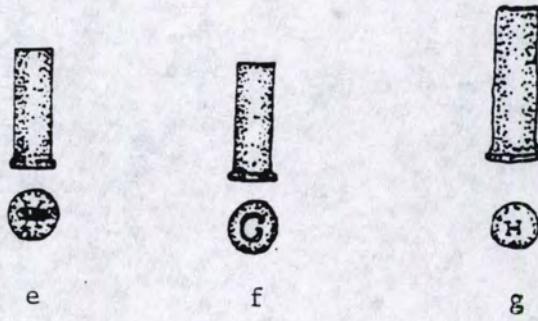
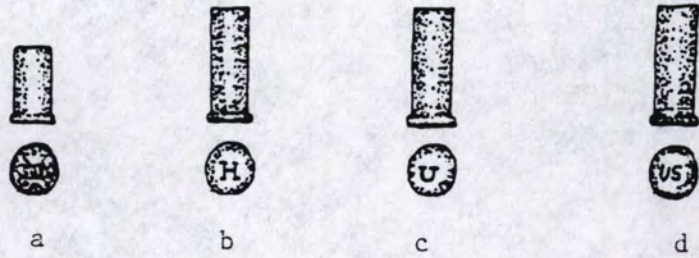
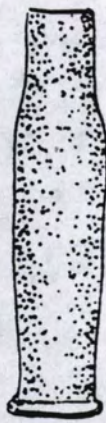


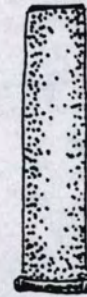
Figure 1. Cartridge Cases From Hays Station.



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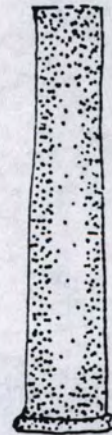
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Figure 2. Cartridge Cases From Hays Station.



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Figure 3. Cartridge Cases From Hays Station.